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Staphylococcal and Streptococcal Dermatitis of the Udder in Dairy Cows.*

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Introduction.

The past decade has witnessed a marked advance in our profession's study of the cow as the nation's milk provider, and in collaboration with the Health Authorities we have passed on our increased knowledge to the public. That our addresses to public opinion, and our research and professional discussions, upon which such addresses have been founded, have a claim to distinction is demonstrated in the beneficial legislation of recent years. In addition, we are experiencing a more healthy disposition on the part of owners to seek our clinician's advice in the management during health or sickness of the animal whose economic importance is steadily increasing. The more success we can justifiably claim, the greater becomes our responsibility—a responsibility to a nation by whose legislation we are enrolled as the protectors of its health.

Never more forcibly has this responsibility engaged my attention than in a recent consultation with a professional colleague. In the course of his visit to a 'graded' herd, the attention of the Inspector of the Ministry of Health was directed by the owner to an eruption on the udders of certain cows. The Inspector requested the diagnosis of the visiting veterinary surgeon, who, at a loss for a correct label for his observations, designated the affection False Cow Pox, and advanced the opinion that the milk would not be injuriously affected. Two days later I was called in consultation to find eight of the cows affected with Folliculitis of the udder. This observation is not the contradiction of my colleague as the bald statement suggests, for though our labels differed our appreciation of the clinical condition was mutual. Like many of our fellow graduates we had been taught in undergraduate days that a simple eruption on the skin of the udder which was not Cow Pox was False Cow Pox. The fact that the advantage of revising earlier teaching in Dermatology has been mine and not his, is a reflection upon our veterinary teaching and not upon my colleague's ability. To return to the history—in the meantime the receipt of that label "False Cow Pox" by the Ministry of Health gave rise to the issue of startling instructions, namely, that the owner should withold from sale all the milk of the affected cows until such time as they were declared free.

Here then is my prologue—a tactful Inspector unconsciously lays his finger upon a weak spot in our veterinary nomenclature; a very capable clinician learns that "False Cow Pox" has a multitude of interpretations, and a conscientious owner suffers severe economic loss.

For this meeting I am asking you to focus your attention upon but a part of the non-parasitic dermatology of the cow's udder, and to receive this short personal experience, the record of which has no claim to finality on the subject, but which has, like all portents, a claim to our serious consideration.

Anatomy and Physiology.

The terms 'udder' and 'mammary gland' are invariably used synonymously; but for the purpose of this record I will adopt Heineman's[1] description of the udder as "a spongy organ consisting of skin, muscles, nerves, veins, arteries, lymphatics, milk ducts, secreting glands, with fibrous, fatty and connective tissue"; reserving the term mammary gland for the seat of milk secretion.

The soft, thin skin of the udder, excluding the teats, shares with the external genitalia, the inside of the thighs and the muzzle, the distinction, when compared with the remainder of the skin surface, of a sparse complement of hairs. Further, the individual hairs of these parts are of a fine texture comparable with the lanugo hairs of man, in contrast to the strong pigmented hairs of the trunk and limbs. Attached to these lanugo hairs, and also I have found, lying separate from the hair, are the sebaceous glands; so that the skin of the udder presumably contains numerically more sebaceous glands than lanugo hairs. These simple or compound alveolar glands which, according to Smith,[2] are, in the horse, freely distributed over the whole surface of the body, secrete an oily semi-liquid material termed sebum. The sebum keeps the hairs and skin supple, and forms a protective layer over the skin, thus preventing on the one hand any undue loss from within of heat due to the evaporation of sweat, and on the other any saturation of the epidermis by water from without.

It is important to recognise that the skin of the teat, in contrast to the skin of the remainder of the udder has, according both to Dollar[3] and Heineman[1], neither glands nor hair. These observations, which have an important bearing on the pathogenesis of the lesions to be described, I have recently verified by taking serial sections through the skin from apex, centre, and base of a cow's teat. In fact, one may define the boundary between the teat and the body of the udder by the lowermost fringe of lanugo hairs.

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Prevalence of Dermatitis of the Udder.

That this delicately-endowed skin of the cow's udder is the seat of diverse pathological conditions finds support in out literature. Gofton[4] states, "I very much doubt if it is possible to examine a herd of dairy cows of any dimensions without finding several with lesions on the teats." Hunting[5] was of the opinion that "few herds of milch cows are free from skin lesions of the udder and teats." In Hugh Begg's[6] wide experience, "lesions of the integument of the cow's udder are very common and often constitute the starting point of infection." With the confirmation of such well-known authorities as to the prevalence of dermatitis of the udder, we can the more confidently enquire into the character and effects of Folliculitis and Impetigo.

Folliculitis.

Staphylococcal Folliculitis may be defined as a suppurative inflammation of the pilo-sebaceous follicles due to the staphylococcus. In the text-books of human dermatology the affection has various synonyms. MacKenna[7] defines Follicular Impetigo or Bockhart's Impetigo as "a superficial follicular suppuration" of the hair-bearing skin in general, reserving the terms Sycosis, Coccogenic sycosis, and Folliculitis barbæ for the "folliculitis or inflammation affecting the pilo-sebaceous follicles" of the beard region. Under "Sycosis" there is a brief reference to the affection in the horse and dog by Hutyra and Marek[8], but these authors like Wooldridge[9] in his recent communication, look upon this condition as a type of Acne; though they make no specific mention of its (acne) occurrence in cattle. That there is a distinction between Staphylococcal Folliculitis and Acne vulgaris, I hope to make clear. This distinction finds support in Borcie's[10] account of Folliculitis in the tails of oxen, a paper which emphases my next point that Staphylococcal Folliculitis may affect any part of the sebaceous gland-bearing skin (I have seen it on the thighs and abdomen of young dogs). However, in milch cows I have only observed Folliculitis on the udder, though in all my recent cases I have carefully examined with negative results other regions especially the muzzle and tail.

In my experience, the lesions in milch cows are confined to the udder, and occasionally by "contact seeding" on the inner surface of the thighs. The first crop of papules and pustules usually arise in what I have termed the "teat quadrant," *i.e.*, the area of skin bounded by the bases of the four teats, spreading in successive crops upwards into the groin or perineum.

I have never observed the lesion on the teats; a valuable diagnostic sign readily understood when the absence of pilo-sebaceous glands from the skin of the teats is recognised.

There arise on the skin surface one or more discrete pin-head sized, raised, superficial papules, each of which rapidly becomes, within forty-eight hours, a distinct yellowish-white pustule of 3 to 4 millimetres diameter. Fixed in the centre of each pustule is a single lanugo hair; standing up like a miniature flagstaff on a miniature mound. (*Vide* Plate No. 1.) The pustule may, during the succeeding two to three days ripen into a more dirty yellow colour before bursting, or it may be ruptured by external agencies. If the ripened pustule be lanced a small bleb of yellowish pus is expressed. The pus from the ripened pustules dries as a thin brown coloured crust, which on separation leaves a minute dimple around the still intact lanugo hair. This dimple-like scar may be difficult to define without the aid of a pocket-lens.

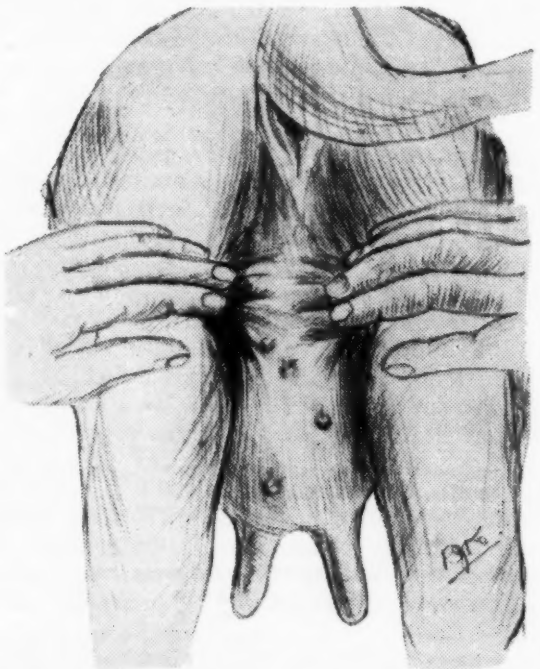

Plate No. 1.—**The posterior wall of the udder invaded by discrete Folloculitis pustules. Each pustule is perforated by a lanugo hair. (Pencil sketch slightly exaggerated.)**

The inflammatory process remains confined to the region of the sebaceous follicle; there is no diffuse reddening of the adjacent skin. There are no comedos, and no enlargement of the associated lymphatic glands. There is no pruritus, though in some well-established cases in which the pustules are widespread I have found that manipulation of the skin is resisted; so that a certain degree of tenderness may be said to exist. The cow's health and her milk yield remain unaffected by the eruption.

If treatment be applied to the initial crop of two or three pustules, the skin may be cleared within 10 to 14 days, otherwise in untreated cases, as has been my recent experience, the affection takes a chronic course. With the spread of the disease into previously healthy pilo-sebaceous glands obviously all stages of the condition will be manifest on the same udder. In these more chronic cases the skin surface will reveal not only a large number of minute scars but also an associated scaly or dandruff-like condition (seborrhœa). It is evident that these crusts and scales become a potential danger to the milk pail unless removed before milking.

Contact pustules frequently appear on the inner surface of the thighs when the lateral walls of the

Plate No. 2.—**The more frequently observed raised circular crusts of the contaminated Impetigo lesions.**

udder and the groin become invaded. The somewhat increased rapidity of spread, once the lesion becomes established in the groin, may be due to the constant friction generated by movement with a distended udder.

Frequently two, three, or four pustules in the well-established eruption may arise adjacent to one another, and on rupture become confluent, resulting in a matted encrustation of neighbouring hairs mixed with collected dirt. These latter areas rapidly become a nidus of contaminating organisms and prove very troublesome. If such a crust be removed with the forceps, a superficial and very irregular area, showing a tendency to bleed, is exposed, while the deep surface of the crust is covered with a thin layer of pus. Culture media inoculated direct with the pus from such contaminated areas have in my cases given mixed growth of *B. coli*, *Staphylococcus albus* and occasionally *S. aureus*.

Single ruptured pustules in untreated cases regularly become secondarily infected, resulting in superficial ulcers which dry off, leaving irregular scars. In these latter instances the hair usually comes away with the crust.

Impetigo.

Until the recent outbreak, which prompted me to present this paper, my observatiins upon this form of dermatitis of the cow's udder have been limited to occasional abattoir animals. On my first visit to the herd I was hesitant in making a diagnosis for, as frequently happens, the typical lesions of this condition are rapidly distorted by the process of milking. Thus from the outset I would emphasise that two or three visits may be required in the initial stages of an outbreak before the clinician feels confidence in his diagnosis.

This form of eruption is defined by MacKenna[7] under the term Impetigo Contagiosa as " a contagious pustular disease of the skin due to a local and superficial inoculation with streptococci." Unlike Folliculitis and Acne vulgaris it is not an infection of the sebaceous glands, but is essentially a superficial inflammation involving the horny and Malpighian layers of the skin.

Wooldridge[9] defines Impetigo as " an eruption of the skin consisting of a superficial pustule often accompanied by a surrounding zone of hyperæmia." He also states that " the lesions in Impetigo are always due to a micrococcus," and that " in milch cows Impetigo is frequently met with affecting the skin of the udder immediately after calving, particularly in highly fed cows." A brief reference to the disease is made by Hutyra and Marek[8], who report Burke's observations in horses, and Schindelka's experience with the eruption on the external genitals, inner surfaces of the thighs, and on the teats of pregnant and suckling bitches. The same authors quote Schindelka's view that Contagious Pustular Dermatitis, described as peculiar to the horse, is identical with the Impetigo Contagiosa of man. Whether this latter notion be correct or not, the description I shall give of the lesion as observed on the teats of dairy cows bears a striking resemblance to that of Contagious Pustular Dermatitis of the horse. Hugh Begg[6] records having met with " epidemics of sore teats of streptococcic origin in which the lesions were constant in character and differed materially from those seen in Variola and Varicella."

The lesion primarily affects the teats, usually arising as one to four or five vesicles at or near the base of one teat, spreading thence to the other teats and even on to the udder surface, more particularly on to the " teat quadrant."

Though I have not as yet been able definitely to ascribe the spread from a single one to all four teats as due to the conveyance of the virus by the milkers' hands, yet the peculiarity of its initial spread would emphasise the probability of this characteristic pathogenesis.

In man the eruption commences as a transient macule occurring at the site of inoculation with the streptococcus. The succeeding conversion of the macule into a vesicle is the earliest stage I have observed in cattle (and then, such is the fortune of inquisitive folk, I was not armed with my technical paraphernalia). A clear, thin-walled discrete vesicle containing a clear serum, indistinguishable from the ordinary blister, appears, surrounded by a narrow pinkish-coloured areola and rapidly attains the circumference of a sixpence to a shilling. These stages preceding rupture, from my observations, develop with such rapidity that I have carefully studied apparently normal teats at an evening milking which, the following noon, revealed two and three ruptured vesicles. If approximated the vesicles on rupture tend to coalesce. When the vesicle is ruptured, its contents dry into a gum-like brownish-yellow circular crust, which is either removed, torn or contaminated at the subsequent milking period. If peeled off with the forceps before milking takes place, this thin newly-formed crust is seen to cover a moist, red, entirely superficial base. Another feature is the normality of the surrounding skin.

In almost every case, however, one finds the crust is somewhat raised above the general level of the skin of the teat, in the form of two or three superimposed layers of increasing diameter from the uppermost to the lowermost. (*Vide* Plate No. 2.) Thus these crusts, which I have always found are the result of contamination, *B. coli* and staphylococci growing profusely in inoculated culture media, give the appearance of a circle within a circle. On their removal, these contaminated crusts leave a thin film of pus and, in addition, they become matted with dirt, and if on the udder, with hairs, so that an oval or circular raw patch results which eventually dries, leaving an irregular scar. In sharp contrast, the non-contaminated crust leaves no recognisable scar, as evidenced in the cases undergoing treatment which have been milked with great care, and again dressed immediately milking ceased.

Though I have not found it possible to determine the duration of a typical impetigo lesion, yet as Chart No. 2 demonstrates, the average duration of the contaminated lesions under treatment is twenty-four days.

With the eruption there is no associated systemic disturbance. Pruritus has not been observed, but with a stocked udder the patients demonstrate acute sensitiveness if the teats are touched, so that restraint is almost always necessary on milking. However, with the release of tension on the skin following milking, the cow usually permits careful examination without protest. Thus it would appear that the lesion is only painful when the crusts are being dragged upon by a tense skin.

The Complications of Folliculitis and Impetigo.

The main dangers both of Folliculitis and Impetigo may be summed up in one word—suppuration. The necessary milking twice daily is not only a means of spreading the causative organisms into healthy areas, but is probably the principal means of introducing contaminating organisms into the initial lesions. The lymphatic drainage of the skin of the udder is in such intimate connection with the lymphatics of the mammary gland stroma that the untreated lesions may rapidly develop into superficial abscesses, cellulitis, abscess of the supramammary lymphatic glands, mammitis, and even pyæmia. Dollar[3] alludes to stenosis of the teat duct following eruptions on the skin of the teat. The pain generated by the tension of an overstocked udder upon a teat affected with Impetigo is another potential source of danger, in that the restlessness of the patient may render difficult the complete stripping of the gland. Hot weather would favour decomposition of the retained milk and the superadded duct infection might rapidly pass into mammitis. Hugh Begg[11] states that eruptions " are a predisposition to mammitis especially if the eruption involves the point of the teat."

Treatment.

MacKenna's[7] wise dictum that " in the treatment of skin diseases success depends as much on the manner in which a remedy is applied as upon its therapeutic properties," is my excuse for giving in detail the measures taken in the recent outbreak to which I have alluded.

A graded cow in milk imposes certain restrictions upon the therapeutist who should be prepared to recognise that (1) the application of his treatment must be simple, and so timed that the least delay in milking routine is occasioned— (2) the medicaments must not directly or indirectly by harbouring dirt contaminate the milk, also they must not impede or destroy the nature of the skin (*e.g.*, strong antiseptics).

Ointments or oily bases are not advocated because (1) serum does not mix readily with grease—(2) they harbour dirt and (3) their removal before each milking necessitates in the application of olive oil, or soap and water, increased labour which in the rush of early morning might easily be slovenly performed.

I have not given autogenous vaccines a trial because I, rightly or wrongly, thought they—(1) were more appropriate in deeper seated lesions—(2) have not proved very effective in the corresponding affections of man—and (3) might upset the cow's metabolism for even one day.

Now for the treatment applied to all the cases of Folliculitis and Impetigo : (1) the contagious nature of both eruptions demands the isolation of the affected, or the affected cows should be milked last, or else by their own special dairy staff. Conditions did not permit the application of these councils of perfection, so my colleague and I impressed both owner and staff with the importance of giving attention to details, and took the risk of further spread. (2) the hair of the udders was clipped short with a barber's hand machine, a more efficient tool than scissors. (3) following each pre-milking grooming the teats and udder were well washed with sterilised flannels wrung out in boiled water cooled to 37°C., containing eusol and liquid soap. The details of this procedure for the removal of scales and dirt was demonstrated to the staff. At least two flannels per cow were provided. After use they were sterilised by boiling in a bucket, which was then covered and set aside until required. Having previously scrubbed his hands and nails in hot water containing some simple antiseptic, the dresser takes one sterilised flannel, soaks it in one quart of boiled water cooled to 37°C., to which half a teacupful of eusol is added, contained in a previously scrubbed bucket. We found it most convenient to have four of these buckets prepared at one time. First the teats are gently washed, each teat being treated with a clean area of the flannel, secondly the quadrant and then proceeding centrifugally to complete the bag and the groins, ending in the perineum. The dresser then satisfies himself by sight and touch that two very important areas (so commonly neglected and so frequently scaly) are thoroughly clean, namely, the mid-line pocket immediately in front of the udder, and then the groins and inside of thighs. The flannel, once it has touched the udder, is never returned to the lotion. A second flannel is usually required to complete the washing. After washing each cow, the dresser scrubs his hands and nails. On September 2nd, Hydrag. Perchlor. (1: 2000) was substituted for the eusol, which was causing a mild form of dermatitis on the dresser's hands. (4) In the case of Folliculitis, any new pustules are lanced with a cutting needle, sterilised in the flame of a spirit lamp, the bleb of pus is expressed, a drop of pure carbolic acid is applied to the lesion, and the surrounding skin is dressed with Tinct. Iodi. (5) Scrubbed hands and nails for the milking of each cow are necessities. (6) Finally, directly after milking, the entire udder is sprayed with a 1: 2000 solution of Hydrag. Perchlor. ; also the lesions of Impetigo are dressed with Tinct. Iodi.

The results of this treatment cannot at present be fully gauged. Certainly the lesions of Impetigo have yielded ; but the same cannot be said of Folliculitis. I regard Folliculitis as one of the most obstinate forms of dermatitis because, whatever therapeutic remedy is applied, the chances are against its percolation into the sebaceous glands in quantity sufficient to kill all the staphylococci. MacKenna[7] records that in man, even after epilation of the affected parts with

the X-rays, there is a strong tendency for the disease to recur when the hairs grow again. The most effective treatment of Folliculitis still awaits the labour of extensive research.

Etiology of Folliculitis.

Samples of pus from typical unruptured pustules in five different cases of Folliculitis were taken with aseptic precautions, and spread upon slant agar. In all five cases pure cultures of staphylococcus aureus were obtained. Broth tubes inoculated with the crusts from two cases grew *B. coli, staphylococcus albus* and *S. aureus*. Direct smears of the pus from unruptured pustules revealed staphylococci and a profuse number of polymorphs. No *Demodex folliculorum* was found. Animal inoculations were not performed.

When an answer is sought to the question why Staphylococcal Folliculitis should have appeared first in Cow No. 3, we encounter difficulties. The subsequent spread of the eruption to the other cows, as demonstrated in Table No. 1, can be reasonably attributed to the practice of damping the udders before milking, the same cloth having been utilised for all the cows in the shippon. But this assumption does not explain why Cow No. 7 should have escaped, although exposed to the same risks as the majority.

Why should No. 3 have initiated the infection? This cow since purchase, eight months previously, had shown no signs of disease until the fourth day after calving on the premises, in which skin disease was unknown. When we consider the intimate relationship between the endocrinal and secretory glandular systems, especially during gestation, and the sudden strain imposed upon this delicate intimacy by parturition, it would appear reasonable to suppose that the sebaceous glands of the udder react to this strain in a degree comparable to the reaction of the mammary gland. If at this time in one of these sebaceous glands a nest of *Staphylococcus aureus* lurks hidden along the shaft of a hair, it is possible the highly excited condition of all the udder tissues would be stimulus sufficient for the re-assertion of the organisms' pathogenic properties. This line of reasoning assumes the existence of a previous infection in Cow No. 3. Well, it was a third calf cow at purchase, we know the chronic nature of Folliculitis in man, and we know also how in man the affection is liable for some reason or other to sudden exacerbations. Is it not possible that the newly roused activities in all the constituents of the udder of a newly calved cow might provide the initial stimulus for a sudden flare up of a slumbering staphylococcus? But this notion before acceptance requires the proof of careful observation and research.

Etiology of Impetigo.

I have already recorded my failure to isolate the streptococcus in pure culture from the lesions which were already heavily contaminated.

This eruption, once established on the teat, is rapidly spread, probably by the milkers' hands, to the remaining teats of the animal, and, unless great care is practised, to the teats of other cows.

Here we can trace the source of infection to Cow No. 15, which showed typical ruptured vesicles the day following purchase as a third calf cow, ten days calved. Also we find the eruption associated with parturition. (*Vide* Table No. 1.) Hugh Begg[16] has observed that it is during the first stages of lactation that "the teats are most liable and suscep-

Table No. 1.—Showing the Incidence and Duration of Dermatitis in the Herd.

No. of Cow.	Introduced into Herd.	Last Calving.	Lesion.	Lesion first observed.	Interval after Calving.	Crusts separated.	Duration of Lesions.
No. 1 Shorthorn	27/7/23	2nd Calf, 25/3/25	Folliculitis	28/6/25	95 days	17/8/25	50 days
,, 2 Shorthorn	2/1/24	1st ,, 25/3/25	,,	30/6/25	97 ,,	17/8/25	48 ,,
,, 3 Jersey†	11/9/24	4th ,, 26/5/25	,,	31/5/25	5 ,,	27/8/25	88 ,,
,, 4 Jersey	18/9/24	2nd ,, 26/7/25	Nil.	Nil.	Nil.	Nil.	Nil.
,, 5 Jersey	11/11/24	1st ,, 29/1/25	Folliculitis.	20/6/25	171 ,,	*	*
,, 6 Jersey	11/11/24	1st ,, 3/2/25	,,	14/7/25	164 ,,	9/9/25	58 days
,, 7 Shorthorn	18/11/24	1st ,, 14/3/25	Nil.	Nil.	Nil.	Nil.	Nil.
,, 8 Shorthorn	18/11/24	1st ,, 31/5/25	Folliculitis.	4/6/25	4 ,,	*	*
,, 9 Jersey	11/2/25	1st ,, 28/2/25	,,	14/7/25	136 ,,	9/9/25	58 days
,, 10 Shorthorn	17/5/25	3rd ,, 18/3/25	,,	25/7/25	129 ,,	*	*
,, 13 Jersey	24/7/25	1st ,, 3/8/25	,,	27/8/25	24 ,,	2/9/25	7 days
,, 14 Shorthorn	27/7/25	3rd ,, 17/7/25	,,	10/8/25	24 ,,	30/8/25	20 ,,
,, 15 Shorthorn	27/7/25	3rd ,, 17/7/25	,,	11/8/25	25 ,,	* Sold	*
,, 11 Shorthorn	2/7/25	2nd ,, 18/6/25	Impetigo.	14/8/25	57 ,,	21/8/25	?
,, 12 Jersey	24/7/25	1st ,, 24/7/25	,,	4/8/25	11 ,,	27/8/25	23 days
,, 13 Jersey	24/7/25	1st ,, 3/8/25	,,	5/8/25	2 ,,	4/9/25	30 ,,
,, 15 Shorthorn‡	27/7/25	3rd ,, 17/7/25	,,	28/7/25	11 ,,	17/8/25	22 ,,
,, 16 Shorthorn	27/7/25	3rd ,, 17/7/25	,,	4/8/25	18 ,,	27/8/25	23 ,,

Therapeutic and prophylactic measures commenced on 8/7/25, i.e., 13 days after clinical consultation. Delay due to unavoidable causes.

Notes:—

* The crusts have not as yet separated (9/9/25).
† The folliculitis originated in Cow No. 3.
‡ The impetigo originated in Cow No. 15.
The average duration of impetigo lesions = 24 days.

tible to eruptive attacks." However, in Impetigo it seems unnecessary to look for a previous infection (*vide* Folliculitis), as any simple abrasion of the newly functioning teat would be a most delectable nidus for the streptococcus lurking in the bedding or the farmer's hands.

What is False Cow Pox?

At this juncture, it might be convenient to examine the information, provided by such literature as I have found it possible to consult, concerning the eruption known as False Cow Pox (Varicella, White or Blister Pox).

Wallis Hoare[12] discusses as a differential diagnosis of Cow Pox (Variola) "many mammary eruptions which have been grouped under the name False Cow Pox by Ceely and Hering," Law[13] adopts the same procedure. I have summarised the description of the typical lesion given by these authors, together with Malcolm[14], Moussu and Dollar[18], Nocard and Leclainche[19] as unilocular, varying sized vesicles, raised on the skin surface, and possessing no circumferential areola. There is no distinct preceding papular stage. These vesicles rapidly develop into pustules which dry up into thin papery crusts. No scars are left. The duration of the lesion is given by Law[13] as five to six days, and by Malcolm[14] as seven to ten days. However, the eruption is liable to appear in successive crops, and thus may extend over several weeks. Finally, the eruption seems capable of transmission by the hands of the milkers. The only mention of this eruption I have found in Hutyra and Marek[15] is their brief reference when discussing Cow Pox to the fact that "Ehrhardt described under the name of False Cow Pox (Varicellæ) a stable disease of cows, in the course of which desquamation of the epithelium from the teats occurs causing severe inflammation."

Upon this information there is little wonder that our more recent authors should have relegated False Cow Pox to a guarded paragraph or so on the differential diagnosis of Variola. There is no description of its prevalence, of its etiological factors, of the results obtained from artificial cultivation of the contents of its vesicles, of the results obtained from animal inoculations, of the treatment applied and its results, and, finally, there is no clear definition of the site of the initial lesion and of its subsequent spread, if any.

When we dissect the evidence presented in our literature, we find it bears, with the exception of the circumferential areola, a phenomenal resemblance to Impetigo. Further, I would suggest that the eruption our precedessors recorded as Varicella was either Variola or Impetigo. The former suggestion finds support in Wallis Hoare's[12] mention of "some authorities who state that these eruptions (Varicella) are probably true Cow Pox in its last stage," while the latter is substantiated by Hugh Begg's[6] interesting description of a teat eruption in seventy milch cows of one dairy herd. "The eruption passed through its course in seven days except in a few cows in which it became irregular (which was doubtless the result of teat stripping causing bursting of the vesicles and allowing secondary infection). The cows maintained their health and there was no appreciable drop in their yeild of milk. Microscopic examination of the contents of a freshly-opened vesicle revealed diplococci which readily grew in pure culture when sown on artificial media." Though Hugh Begg states that this eruption "closely resembled Varicella," he does not apply a label, but leaves it open for someone to suggest that his diplococcal eruption was, in fact, Impetigo.

To escape further confusion in a branch of medicine which is already furnished with a bewildering array of synonyms, and to avoid such misunderstandings as my colleague experienced with the Health Authorities, I would urge the removal of False Cow Pox from our dermatological nomenclature.

Differential Diagnosis (Summarised).

A. Eruption on the Udder, not on the Teats.

a. *Folliculitis.*

(1) Initial lesions are discrete superficial papules, followed by pustules on an otherwise normal skin.
(2) Each papule or pustule is perforated by a hair.
(3) The pus of unruptured pustles gives pure cultures of *Staphylococcus aureus.*
(4) The lesions leave minute dimple-like scars around the hair.
(5) The eruption runs a chronic course, with successive crops, and a slow spread.
(6) In the absence of complications the associated lymphatic glands are unaffected.
(7) There is no pruritus, no comedos, and no coincident affection of the animal's health.

b. *Acne vulgaris.*

(1) The initial lesion is the comedo occluding the duct of a sebaceous gland, followed by an inflamed nodule.
(2) The sebum of the affected glands usually contains both the acne bacillus and the *Demodex folliculorum.*
(3) Secondary infection with staphylococci is usual resulting in the painful, inflamed "Acne Pustule."
(4) The lesions leave a well-marked depressed scar.
(5) Cutaneous abscesses frequently develop.
(6) The associated lymphatic glands are invariably swollen.
(7) Usually there is some associated systemic disturbance.
(8) There is no pruritus, and no penetration of the lesion by a hair.

B. Eruptions Primarily on the Teats.

a. *Impetigo.*

(1) The initial lesion is a transient erythema followed by a thin-walled, superficial vesicle surrounded by a pink areola.
(2) The causative organism is a streptococcus isolated from the contents of unruptured vesicles.

(3) The contents of the vesicles dry into gum-like brownish-yellow crusts.
(4) No scars are left by uncontaminated lesions.
(5) Contamination is almost unavoidable in milch cows.
(6) Very contagious, with a rapid spread to all teats, and later to the "teat quadrant."
(7) There is no pruritus, and no associated systemic disturbance.
(8) Milking becomes a very painful process.

b. *Cow Pox* (*Variola vaccinia*).
(1) There is a prodromal stage followed by initial lesions of isolated, red, lentil to pea-sized papules on an inflamed skin of one or more teats.
(2) There is associated mild constitutional disturbance.
(3) On the 2nd to 3rd day multilocular elliptical vesicles appear, each with an umbilicated centre and a circumferential, raised, red areola.
(4) The vesicles become pustules on the 8th to 10th day, with desiccation into thick shining yellow crusts.
(5) The crusts leave permanent scars or "pits."
(6) The duration of the lesion is 21 days.
(7) Subcutaneous inoculation of a calf with the contents of a vesicle reproduces the disease.

C. Other Eruptions which may affect the Udder.

1. *Purulent Form of Eczema.*
(1) Eczema is an acute, subacute, or chronic catarrhal inflammation of the skin.
(2) The initial lesion is an erythematous patch on which papules and later vesicles rapidly develop.
(3) The lesions are massed together in patches, with little or no intervening normal skin.
(4) There is marked pruritus.
(5) If the vesicles become infected with pyogenic organisms pustules result.
(6) No scars are left.

b. *Furunculosis* (*Boils*).
(1) There is usually a history of injury or friction of the skin region affected.
(2) The initial lesion is a small, itching, reddish nodule which rapidly becomes hard, hot and painful.
(3) The nodule spreads in all dimensions, becoming a conical tumour raised above the general level of the skin with a circumferential brawny infiltration.
(4) The lesion ruptures in 7 to 10 days, leaving the necrotic "core."
(5) The lesion heals by granulation with subsequent scar formation.
(6) The associated lymphatic glands are enlarged.

c. The virulent constitutional disturbance associciated with Foot-and-Mouth Disease, Rinderpest, and Malignant Catarrh relegate any udder eruption to a minor place.

The Consequences.

A. *To the Cow.* This section involves a discussion upon the prophylactic measures requisite to ensure a continuance of good health in the dairy herd—a subject fully dealt with in a recent communication by Hugh Begg[16]. Space will not permit of more than a few salient references to the subject. Table No. 1 demonstrates the wisdom of strict isolation of all new purchases for at least two or three weeks before admittance into close association with the herd. Particular care should be paid to the udders and teats of all newly calved cows, especially if their former histories are unknown. While the pre-milking cleansing of the udder is a proven necessity, yet owners must be educated to use separate flannels for each animal, and to sterilise these flannels by boiling as alluded to under treatment.

There is a further consideration as affecting the cow arising out of our previous study. Why did Nature endow the udder, the inside of the thighs, the external genitalia and the muzzle with such distinctive properties ? May we not find one answer when we consider the friction to which those parts are subjected ? The muzzle is exposed to the friction of the tongue, and yet the sweeping of the tongue, with its coating of saliva serves as a shelter to the skin against hostile elements. The rubbing of the tail can also read the protection of the tail. The inside of the thighs in their apposition form a common protection—and, together with the flank, shield the udder of the mare, ewe, native cow, the scrotum and prepuce of the horse, also the scrotum of the bull and ram. Contrast the skin of the prepuce or mammary glands of animals in which these organs are placed more anteriorly on the abdominal wall, and thus very much more exposed. In these animals (the bitch, bull and ram) especially long closely aggregated body hairs form an adequate defence. Upon this hypothesis we are brought to recognise that, through the course of ages, by adapting the cow's udder to his own service, man has developed or caused to be developed an organ whose natural protective devices have not been concurrently increased. While in the natural state the lactating cow would have the benefit of the warmth of summer, to-day the artificially-cultivated udders are functioning to an excessive degree in all seasons and under a variety of conditions. Man, with his woollens and overcoats, can disregard the north-east wind ; on rising out of his hot bath man can close the bathroom window against the night breezes chilling his overstimulated skin. Have we not to consider and guard against the potentialities of exposure to cold winds in the causation of skin disease in the highly sensitive, delicately functioning, and over-stimulated udder of the newly-milked cow leaving the shipppon for the pasture.

B. *To the Milk Supply.* The results of my examination of samples of milk taken from representative cases in the herd are shown in Table No. 2. In each case one half-pint of the total milk withdrawn from one particular cow was poured into a sterilised milk bottle and the seals applied. The milk was

examined by the technique for graded milk recommended by the Ministry of Health. No distinction between the milk of affected and unaffected cows can be determined. In none of the agar plates or broth tubes inoculated with milk of affected cows have I been able to identify an organism other than those occurring in the milk of the unaffected control cows. While far more of these and similar records are required before definite conclusions are defined, yet, so far as this one outbreak is concerned, I feel satisfied that the milk supply of the herd was in no way endangered since the institution of treatment.

Unfortunately, I made no examinations of the milk before the commencement of treatment. As previously mentioned the crusts in both eruptions on inoculation into media produced liberal growths of *B. coli* and staphylococci. Consequently we may presume that the milk of affected cows whose udders were not given a pre-milking cleansing would reveal a high bacterial count, with the presence of *B. coli* and possibly of the causative organisms.

Table No. 2.—Results of the Bacteriological Examination of Milk Samples.

Lesion.	No of Cow.	Milk Sample. Date.	Time of Milking.	Time of Examtn.	After 48 hours Incubation. Average Count per c.c.	Presence of B. coli in 1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.
Impetigo	16	4th Aug.	4-0 p.m.	5-0 p.m.	2000	0	0	0	0
Impetigo	16	20th Aug.	6-30 a.m.	2-0 p.m.	480	0	0	0	0
Impetigo	13	20th Aug.	6-30 a.m.	noon.	4000	0	0	0	0
Impetigo and Folliculitis	15	27th Aug.	6-45 a.m.	noon.	120	0	0	0	0
Folliculitis	9	3rd Sept.	7-0 a.m.	4-0 p.m.	1720	0	0	0	0
Folliculitis	6	3rd Sept.	7-0 a.m.	4-0 p.m.	3100	0	0	0	0
No Lesion	7	25th Aug.	6-45 a.m.	3-30 p.m.	430	0	0	0	0
Controls	4 *	26th Aug.	6-30 a.m.	10-30 a.m.	1300	+	+	+	0

* The B. coli produced acid and gas in glucose, lactose mannite, and saccharose ; negative indole ; non-motile. This contamination was due to cow kicking during milking. None of these ½ pint samples were passed through the cooling apparatus.

C. *To our Profession.* I now wish to remark upon the responsibility our Profession has accepted under recent legislation. As I stated early in this paper, the owner was instructed by the Ministry of Health to withhold from sale the milk of the cows affected with the udder eruptions we have discussed. Under the Milk and Dairies (Amendment) Act, 1922, and the Milk (Special Designations) Order of 1923, I can find no mention of Folliculitis, Impetigo, False or True Cow Pox as conditions coming within the meaning of their proscriptions. But these orders do require the veterinary surgeon to certify, on clinical examination, that no animal in the herd shows symptoms indicative of " Abscess of the udder." Is it possible that the Ministry of Health construed " False Cow Pox " as a type of abscess of the udder ? One does not know, but the fact that the milk was stopped must engage our attention. Further, now that the Milk and Dairies (Consolidation) Act, 1915, has come into force, the milk of any cow suffering from " Suppuration of the Udder " Section 5 (d) must be withheld from human consumption.

What do we of the Veterinary Profession signify by these terms " abscess of the udder " and " suppuration of the udder " ? By the term " udder " do we, with Heineman[1], indicate all the constituent elements of the anatomical udder, or do we refer solely to the milk-secreting parenchyma ?

If we accept the former definition, then we conclude that an abscess or suppuration of any one of those constituents of the udder, for example, the skin, comes within the Act. Now what do we purpose by abscess or suppuration of the skin ? Dorland[17] defines an abscess as " a localised collection of pus in a cavity formed by the disintegration of tissue." Thus, as Wooldridge[9] has remarked, " a boil is actually a small abscess, and a pustule is a minute abscess." Suppuration in the skin of the udder would denote the formation of pus within that tissue. If we assent to these designations, then the clinical forms of Folliculitis, Impetigo, Acne vulgaris, Cow Pox, Furunculosis and Eczema, as affecting the skin of the udder, are proscribed by the milk orders, for they are all, in fact, abscesses or suppurations of the udder, though of a mild degree.

On the contrary, if the milk orders only refer to abscess or suppuration of the milk-secreting parenchyma, the Health Authorities should have no reason for condemning the milk of cows affected with the forms of dermatitis alluded to. They cannot have it both ways.

May I urge that this now pressing question be answered by our Profession, that a clear definition of terms be established for the guidance of clinicians operating our various legislative enactments ? The thought, and in this case, the actual experience of receiving warrantry for our clinical interpretations from our sister profession, arouses my jealous indignation.

Conclusions.

1. Research is urgently required to assist the veterinary clinician with more precise definitions of the various types of non-parasitic Dermatitis.
2. Dermatitis of the cow's udder is very prevalent.
3. Untreated cases of Dermatitis of the udder are potential sources of danger to the health, utility, and milk supply of the cow. Delay on the part of the owner in seeking professional advice increases the

risk of complications, and defers the response to treatment.

4. In this paper an attempt has been made (A) to define two specific types of Dermatitis of the udder, viz. (a) Folliculitis, a slowly spreading contagious Staphylococcal suppurative inflammation of the pilo-sebaceous glands of the udder; (b) Impetigo, a rapdily spreading contagious streptococcal superficial inflammation of the skin of the teats.

(B) to differentiate these two affections from other specific types of Dermatitis of the udder, viz., Acne vulgaris, Eczema, Furunculosis, and Cow Pox.

5. The so-called False Cow Pox (Varicella) has no proven scientific etiology, pathology, or clinical course to justify its retention in scientific Veterinary nomenclature.

6. It is incumbent upon our Profession clearly to define the terms "Abscess of the Udder" and "Suppuration of the Udder" as used in the provisions of recent legislation. Otherwise the Medical or Legal Professions may take the initiative.

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Discussion.

The President said that a very interesting paper had been heard and he hoped there would be a good discussion. He called on Mr. Holroyd to open.

Mr. J. Holroyd: I am sure we are all indebted to Dr. Hare for coming here this afternoon and putting before us his views regarding these diseases of the cow's udder; especially so, having regard to the view taken by the Ministry of Health regarding the sale of milk from affected animals. I am with Dr. Hare when he says that False Cow Pox should be eliminated from our vocabulary. Surely, if the disease is not Cow Pox, it ought to be given another name and we have to thank Dr. Hare for suggesting two names—Folliculitis and Impetigo. Whether either or both of these are correct for the condition described, I do not know, but I certainly think the time is ripe for some definite action to be taken. I think the condition described as Folliculitis is of a rare occurrence; at any rate, I have not met with any condition that just tits the symptoms as described by Dr. Hare. Perhaps I have not taken as much care as I might have done in examining the lesions.

With regard to Impetigo, perhaps this is the correct name to give it, but I have called it Contagious Pustular Dermatitis, and this appears to be the particular condition which some authors designate False Cow Pox. Klein, in *Principles and Practice of Milk Hygiene*, describes the symptoms of False Cow Pox, which are practically identical with those described by Dr. Hare, and says the condition is supposed to be due to ordinary pyogenic cocci which are rubbed into the skin during milking and are usually seen in cows with teats covered with fine skin. He goes on to say that the milk is not affected except in so far as it may be contaminated with purulent matter from the ruptured nodules. There is only a small quantity of this material and the contamination from this source, therefore, can only be very slight. Friedberger and Frohner in *Veterinary Pathology*, say "the eruption in Cow-Pox (variola) may be mistaken for False Cow Pox," but do not give a detailed description of what they would call False Cow Pox. They, too, say that the term Impetigo includes *all* eruptions characterised by large pus blisters; therefore, I am not satisfied that Impetigo is the correct interpretation of this condition. From Dr. Hare's notes, which he kindly sent me at the end of last week, I am not quite clear whether he found this condition, together with the condition he terms Folliculitis, in the same animals at the same time during the outbreak under notice. This class of case—call it Impetigo or Contagious Pustular Dermatitis—is common. The symptoms are as described by Dr. Hare; pustules are quite common on the body of the udder as well as on the teats. I am quite convinced it is carried from teat to teat and cow to cow by the milkers' hands. Treatment is usually simple, any antiseptic, whether in watery solution or prepared as an ointment, proving satisfactory. The main point I think is seeing that the milkers thoroughly wash their hands after milking each cow and milking affected cows last. The treatment as detailed by Dr. Hare is thorough and may be all right in a Grade "A" herd. I do not think flies have any connection at all with this particular condition, but I am not satisfied that flies do not play an important rôle in the causation of a certain form of mastitis. The bacteriology of these complaints I know nothing about, I leave that to the laboratory worker.

Mr. E. H. Curbishley thought this was the first paper he had heard, in that Society, on a dermatological subject. He felt very grateful to Dr. Hare for presenting such an interesting paper and he thought the gratitude of the

members was due to him. As he understood the interpretation of gratitude to be "a sense of favours to come," Dr. Hare must not expect to be let off lightly with his contribution. While on the subject of congratulations, Mr. Curbishley thought the general practitioner deserved some. If a general practitioner could get in touch with a laboratory worker he was able to diagnose his case with much more ease and confidence than if he acted alone. But the general practitioner had neither the time nor, often, the confidence to conduct laboratory examinations. He had been impressed that afternoon by the illustration given in the paper of the results that could be obtained by team work. If the general practitioner could only get into the way of calling in the experts to complicated cases, his work would be lightened greatly and he would get more facts than usual. He would be able to broaden his knowledge and to answer queries more definitely, and, moreover, to come to a sound conclusion. He supposed that Dr. Hare would make that subject his life's study, and he hoped he would. In his opinion there was no subject in such a chaotic state as that one. The medical profession recognised nearly forty different kinds of skin diseases. There was no doubt that the subject of dermatitis should be put on a sound and proper basis. If Dr. Hare took that subject up he was confident his labours would not be finished in his, Mr. Curbishley's time—there were so many conditions to be considered. Mr. Curbishley quoted Professor Williams as saying that if skin diseases were put in a bag and shaken up they would come out as eczema and, if treated as such one would be surprised at the number of recoveries. He would like to ask if Varicella was a similar condition to the one presented that day? Also, he wondered if the eruptions referred to were due to diplococci. With reference to eruption on the udder and teats, he would like to know which was primarily affected.

Dr. HARE replied the teat was primarily affected.

Mr. CURBISHLEY said he thought it very difficult to distinguish between Impetigo and Folliculitis. He wished to know whether the inoculation of a calf with the contents from the impetigo lesions would in any way affect it. Also could a sucking calf be affected from a cow suffering from this condition and, if so, would one find Impetigo of the lips or what would one expect? Was it possible that a simple erythema, treated properly, would abort and so prevent disease? If a farmer was asked about a sore on the teat he would say it was due to a sting, or to the cow laying on a nettle bed; he would say it was due to a wild animal sucking it while it was asleep. He supposed a rash could occur from many causes. If an animal was treated in the early stages of that condition, could the disease be aborted from its full course? He had seen one or two outbreaks similar to the one reported by Dr. Hare. He also wished to know if a teat infection might cause mastitis and if so, would it be a lymphatic infection? He thought the question of the stoppage of the milk supply was one that might be discussed by the Veterinary Inspectors who were well acquainted with the Regulations, also the question of udder infection and conditions to cause the stoppage of the milk supply. With reference to the treatment of dermatitis, he always used the syringe and peroxide of hydrogen and then dressed with iodine ointment. On the teats he always used ointment, as that seemed to him the best treatment.

Mr. W. WOODS said he noticed that Dr. Hare had not said anything about whether the milk from cows suffering from this condition was fit for human consumption, provided the discharge from the eruptions was kept out. With reference to the use of perchloride of mercury, in days past that was avoided and peroxide of hydrogen used so that the milk would not be affected. Mr. Woods said he wished to thank Dr. Hare for coming that afternoon. He first met Dr. Hare at the Congress at Cambridge and he then formed the opinion that the profession was fortunate in having a man like him. He hoped it would not be long before Dr. Hare obliged with another paper.

Mr. E J. BURNDRED expressed his thanks to Dr. Hare. He had not seen a case of Folliculitis but he thought the question of abscess and suppuration of the udder a most important one. He thought, like Mr. Woods, that the best treatment was with peroxide of hydrogen with a view to preventing the contamination of the milk.

Captain GLYN LLOYD stated that, as a visitor that afternoon, he had enjoyed himself, although the subject was one of which he knew very little. The most interesting point to him was the collaboration between the clinician and the laboratory worker. The professional motto was "Unity is Strength," and if clinicians could collaborate with laboratory workers of Dr. Hare's ability, then the results would be far reaching.

THE REPLY.

Dr. HARE said he felt that, by the many questions that had been asked, he had put himself in a position that merited them. He had not read his paper to his audience that afternoon, but had just given a general survey of a few impressions which he thought might be of interest to his audience. Had he read the paper as it was to be published, it would probaly have saved one or two points of misunderstanding. One thing had been established at that meeting, and that was the realisation of the importance of the subject of non-parasitic dermatitis, which was in its infancy. It was in the same stage in human medicine; he thought there was no more confusing subject. He was fortunate enough to have been a pupil of Dr. MacKenna at Liverpool and it was an experience to sit beside him in his consulting room and watch him deal with the different cases of skin eruption that came before him. The difficulty of the veterinarian was that he had often to go several miles to see a case, where the medical man had often several cases before him in a short time. The Veterinary Profession could only go ahead slowly, but he would point out the Profession was not behind the times. It had not the opportunities of the Medical Profession. He proposed making that subject his life's study if he was able; he wished to be in a position to receive a 'phone call from a clinician with whom he could visit a case, and to give the clinician all the help he could. He did not believe in being in the laboratory all the time and, given the opportunity, he would be a clinical pathologist. It was for the clinician to make the pathologist do the work. He appreciated Mr. Curbishley's remarks about his making that subject his life's study. When he was asked by Mr.

Noel Pillers to give a paper, he received several subjects from which to choose, and that was Mr. Pillers' choice. He was also interested in genital diseases, which he thought were going to be the most important work of the general practitioner to-day. The cow was more important than the horse from a practical point of view. He wished to express his thanks to Mr. Holroyd and Mr. Curbishley for discussing his paper in the way they had done. He had tried to make it quite clear that Impetigo and Follicular Dermatitis were two different conditions. The trouble with the treatment of Folliculitis was that one could not get down to the sebaceous glands. The condition appeared to be cleared up and then it broke out again. Treatment must be given when the disease is in the early stages for it to be successful. With reference to Mr. Holroyd's remarks about False Cow Pox, Dr. Hare said his reply was in his paper. One thing he had noticed and that was no author had been brave enough, in the Veterinary Profession, to bring forward any work on False Cow Pox. If there was no evidence with regard to this condition, then no confidence should be placed in conditions which cannot be established as definite specific diseases. With reference to Mr. Curbishley's remarks about inoculation of a calf, Dr. Hare said he would like to try to inoculate a calf with the contents of typical lesions but, at the present time, he could not afford the money to do this. It would certainly have to be done before knowledge on this disease could be perfected. He had come to this meeting to learn and not to teach, and to present a few problems. By the chart it will be seen that the treatment given is sound; it can be improved on, but there is no doubt about it being scientifically sound. He observed Mr. Curbishley's remarks about a wild animal causing eruption: that a hedge-hog, for instance, may cause it. Dr. Hare said that though farmers have some strange observations which are passed on to them from past generations, nevertheless, some of them are worthy of our detailed consideration. With reference to Mr. Curbishley's remarks about a sucking calf getting Impetigo of the lips, Dr. Hare said he had no experience of this possibility. With reference to Mr. Woods' remarks re treatment and contamination of milk, Dr. Hare said that was discussed in the paper, also a chart was shewn, giving results of examination of milk of cows affected with Impetigo and Dermatitis, also the control samples of affected cows. The results would show that there was no appreciable difference in the bacterial count also the quality of the milk was not affected. He was not able to take samples of the milk before treatment was applied, but he had examined the scales of the lesions and found they contained *B. coli* and staphlococci, and those scales dropping into the milk were liable to increase the bacterial count. With reference to Mr. Woods' and Mr. Burndred's remarks about treatment and contamination of the milk, Dr. Hare said he did not think the Hydrarg. Perchlor. would contaminate the milk, as the udder was dried and not left in a wet condition after treatment. He wished to express his thanks for the way in which the paper had been received, also for the encouragement given him to study that subject. He hoped he would be able to justify, in years to come, the confidence placed in him.

Royal (Dick) Veterinary College.

OPENING OF THE COMPLETED BUILDINGS.

In the course of an extended report of the above function, *The Scotsman* of 20th October, 1925, says:—

"The Secretary for Scotland, the Right Hon. Sir John Gilmour, M.P., opened the completed buildings of the Royal (Dick) Veterinary College at Summerhall, Edinburgh, yesterday, in the presence of a large and representative company. The College was transferred from its old quarters in Clyde Street to the present buildings as far back as 1916, but it was only during the present year that the buildings were completed and equipped. Professor T. Hudson Beare, chairman of the Board of Management of the College, presided, and he was accompanied on the platform by the Secretary for Scotland, Lord Provost Sir William Sleigh and Lady Sleigh, Sir Alfred Ewing, Principal of Edinburgh University; Dr. O. Charnock Bradley, Principal of the College; Dr. Nasmyth, vice-chairman of the Board of Governors; Sir Robert Greig, chairman of the Board of Agriculture for Scotland; Sir Harold Styles, president, Sir David Wallace, vice-president, and Mr. Miles, secretary of the Royal College of Surgeons; Professor Buxton, Cambridge, president of the National Veterinary Medical Association; Sir Norman Walker, Treasurer of the Royal College of Physicians; Mr. G. Washington Browne, president, and Mr. James Paterson, secretary, Royal Scottish Academy; Sir John R. Findlay, Sir James Adam, Sir Archibald Buchan-Hepburn, Sir Robert Philip, Dr. George Macdonald of the Scottish Education Department; Mr. C. E. Price, and Mr. M. A. T. Thomson, Master of Edinburgh Merchant Company. Members of Edinburgh Town Council attended in their robes of office, and a contingent of the veterinary O.T.C., under Captain Mitchell, were present in uniform. The Highland and Agricultural Society and other agricultural interests were also represented.

"Professor HUDSON BEARE explained that the buildings were started a few months before the outbreak of the Great War, the memorial stone having been laid by the Marquis of Linlithgow on 21st July, 1914. The Government authorities interested in the matter instructed the Board of Management to go on with the work of building, and the structure was so far completed by 1916 that the work of the College was transferred from its old quarters in Clyde Street to that block of buildings Unfortunately, the funds at the disposal of the Board of Management were exhausted before any part of the work of the internal fittings of the buildings could be undertaken, and it was only within the present year that funds had become available for entering into contracts for the fitting up of the laboratories and lecture-rooms, and supplying the necesary experimental apparatus for lecture-rooms and class-rooms. The cost of the site was £8,767, and up to 31st March last the buildings had cost £49,678, making a total expenditure up to that date of £58,445. The cost of the internal fittings and laboratory equipment would amount roughly to £16,000, making a total cost of about £75,000. He should like to express the warm thanks of the Board of Management, both to the teaching staff and to the students, for the courage with which they had carried on their work during the last nine years under the most un-

pleasant and disheartening conditions as regards the equipment of the buildings. (Applause).

WORK OF THE COLLEGE.

"He was glad that he could give a very cheering account of the work of the College. Since 1919-20 the number of matriculated students had fluctuated from 138 to 173, the latter being the number in attendance in the boom year of 1921-22, when so many ex-Service men joined the various institutions of University rank throughout the kingdom, owing to grants given by the Education Departments of England and Scotland, but they had had no sensational drop in the numbers since 1921-22, the number of matriculated students last session being 144. As a compensation for the small reduction in the number compared with 1921-22, the number of post-graduate students had steadily grown year by year. Last session there were 25 in attendance, 18 preparing for the examination for the diploma in veterinary State medicine, and seven taking advanced work in pathology and bacteriology. In the professional examinations for the Royal College of Veterinary Surgeons, during the session 1924-25, 150 of their students presented themselves for various examinations, and 104 passed successfully, 20 of them with honours, and 17 obtained the diploma of the College. For the examinations held for the diploma of veterinary State medicine, 20 candidates from the College presented themselves and 15 passed. The best testimony to the high standard of instruction in the Royal (Dick) Veterinary College was attested by the fact that in the competition for the Walley Memorial Prize, open to candidates from all the Veterinary Colleges in the United Kingdom, their students occupied first (equal), third, and fourth (equal) positions in the list. They were closely linked to the great University of Edinburgh, which granted the degree of Bachelor of Science in Veterinary Science, the work of preparation for the degree being carried out partly in the Royal (Dick) College and partly in the University. A student was required to put in one year of additional study, and he must have obtained his membership of the Royal College of Veterinary Surgeons before he could receive the degree. During the past session 20 of the College students were enrolled for this degree, and two of them graduated in July last.

"A College such as the Royal (Dick) was not doing its work satisfactorily unless, along with the ordinary teaching work, research work was being carried out simultaneously. It was a source of much gratification, therefore, to the Board of Management that, as a permanent memorial of the centenary of the foundation of the College, a post-graduate fellowship fund was raised by public subscription, the aim of the fellowship being to afford to students an opportunity of pursuing advanced study and research work either at home or abroad. Mr. Norman Dobson, B.Sc., M.R.C.V.S., had just been elected by the trustees the first Fellow, he having already done a year's research work in the College, and it was hoped that Mr. Dobson would also be appointed by the University Senatus as a research student under the regulations for the degree of doctor of philosophy. In this connection he might mention that members of the teaching staff published during the past session seven papers dealing in the main with original investigations into various animal diseases. Under arrangement with the Board of Agriculture for Scotland, the Advisory Committee of the Animal Diseases Research Association had been allotted accommodation for their research investigations in that College. Certain of the upper rooms were being specially fitted up for this important piece of research work, and Mr. S. H. Gaiger, F.R.C.V.S., had been appointed Honorary Research Professor in Animal Pathology. In introducing Sir John Gilmour, Professor Hudson Beare offered, on behalf of the Board of Management, their warm thanks to him for the keen interest he had shown in the College ever since he took up the important duties which fell to the office of the Secretary for Scotland. (Applause).

"The SECRETARY FOR SCOTLAND, in opening the buildings, said that it would be at any time a great pleasure to associate himself with work connected so directly with agriculture as that of their Veterinary College, but the good relationship which existed between the Board of Management and the Board of Agriculture was a matter for great satisfaction to the individual who, for the time being, occupied his multifarious post. One had heard with great interest the resumé of the work of that College. He would like to say that those of them gathered in that hall, rejoicing to see these new and efficient buildings, must never forget the great tradition upon which veterinary science in Scotland rested—upon the labours and the work of men of a past generation—and the name of Dick must be for ever venerated, not only there particularly in the capital of Scotland, but throughout the country as a whole. (Applause). That he was a man in his day who had vision, and who had great hopes of the development of his science and craft, was very evident from the foundations which he laid. It would therefore be a matter of pride and gratification, he was sure, to all who were there, to professors and teachers, or to the rank and file and students, to maintain that good tradition, and to build and improve upon it. In these days of stringency of monetary supplies for carrying on any of the great services of the country, it might strike some who read of the figures which had been spent in the erection of that building, in the furnishing and equipment of it, that it was a heavy measure of expenditure. But he was quite certain of this, that anyone with any real knowledge of the agricultural interests of this country and of veterinary science, would realise that, large as that sum might be, it was infinitesimal when it was compared with the value of the work which could be done, and of the enormous saving to the country which would result from the improvement of veterinary science. (Applause). He would like to say that he was indeed glad to think that there was that close connection between that College and the University, and that they had there now in the centre of Scotland a well-equipped veterinary teaching establishment, which had been built up by the foresight and energy of many men, and, he had no doubt, of some women.

"The LORD PROVOST spoke of the very close and friendly relations which had always existed between the College and Edinburgh Corporation. For well-nigh forty years the Corporation, he said, acted as managers for the trustees of Professor William Dick, and under the reconstitution of the College they had two representatives at present on the Board of Management. The College had a world-wide reputation. They hoped it would go on

and flourish, and he was sure that Sir John Gilmour's sympathetic interest would be most helpful to the College in carrying on its most valuable and useful work.

"Sir HAROLD STILES pointed out the extreme importance of the study of animal pathology to medical men. What he hoped to see in future was the establishment of a school of animal pathology in connection with human pathology, and he would like to see both subjects taught under the same roof. That could not take place there at present, but fortunately those buildings were very close to the University, and he knew the hearty co-operation that always existed between that veterinary school and the great medical school of Edinburgh University. On behalf of the Royal College of Surgeons, he congratulated the Royal (Dick) Veterinary College on the work it had done during the last century for domestic animals, for agriculture, for public health, and for preventive medicine and humanity at large.

"Professor BUXTON, Cambridge, conveyed the cordial congratulations of the National Veterinary Medical Association to the Board of Management and the agriculturists of Scotland that they had such an institution as that within their borders.

"Principal BRADLEY, in proposing a vote of thanks to Sir John Gilmour, said that the association of the College with the House of Montrave had always been of the happiest. The late Sir John Gilmour watched the sprightly and active lady *Alma Mater* outgrow her Clyde Street dress, and he (Principal Bradley) thought therefore, it was most appropriate and deeply gratifying that the present Sir John Gilmour should inspect and approve and confer his blessing upon the present vestments of that young person. That she was growing, he thought, was very obvious from what had been said that afternoon. Being a growing young person, it was pretty obvious that her present attire would require, to say the least of it, certain easements. (Laughter). It was a fact well known to medical and veterinary science that grave and lasting injury might result from dietetic deficiency during periods of growth. (Laughter).

"The SECRETARY FOR SCOTLAND, in reply, said that within reason, as long as she did not grow too fast, they would do their best; but he hoped the young lady would not be either bobbed or shingled. (Laughter.)

"Thereafter, in the quadrangle, the Secretary for Scotland inspected the Veterinary Contingent of the Officers' Training Corps. It was explained that the Royal (Dick) Veterinary College is the only veterinary college in the United Kingdom which maintains a veterinary contingent of the O.T.C."

At a meeting of the directors of the Scottish Chamber of Agriculture held early in the month, the following resolution was unanimously adopted:—That as the Scottish Board of Health are imposing stringent regulations regarding the production and sale of home dairy produce, they be called on without delay to discharge the duty imposed on them by Section 12 (1) of the Milk and Dairies (Scotland) Act, 1914, which reads:—The Board shall make regulations under the Public Health (Regulations as to Food) Act, 1907, for the prevention of danger arising to public health from the importation of milk, butter, cheese, and other milk products intended for sale for human consumption. Further, direct attention of the Board of Agriculture for Scotland to the importance of having this done.

A Pure Milk Symposium.

(Reprinted from the *British Medical Journal*, Aug. 8th, 1925).

"The experiment, suggested a few years ago by Dr. Fothergill, of a section of Medical Sociology at the Annual Meeting of the Association, has been amply justified by its results. In the discussion on pure milk this year at Bath, a high level of interest was maintained. There were present representatives of county councils, medical officers of health, and sanitary inspectors, of veterinary surgeons, farmers and milk purveyors, and of clean milk societies. In fact, the only interests not directly represented in this discussion on pure milk—a matter brought to the notice of the public originally by the doctors—were those of the ordinary consumer and the ratepayer. The interest of these comprehensive sections of the community may be summed up, perhaps, as a demand for efficiency with economy; and it is in the light of such a demand that the discussion should be studied.

"The discussion fell into two parts: in the morning the section dealt with the standard of purity of milk, and in the afternoon with the means that can be taken to obtain pure milk, and its cost. It will be useful, in the first place, to attempt to define the terms used in the discussion. Pure milk presumably is milk which has not been tampered with, which has not been diluted with water, which has no added preservatives, and which is clean. The meaning of clean milk is fairly definite. It is based on the bacterial count, and is related especially to the presence and numbers of coliform bacilli. The difficulties in producing completely clean milk are so great that the cost of the milk would be prohibitive. It has been thought well, in order to stimulate the production of milk that is as clean as circumstances will allow, to introduce a system of grades. (1) Certified milk is obtained from cows tuberculin tested and inspected by a veterinary surgeon every three months; the number of bacteria must not exceed 30,000 per c.cm., and must not contain *B. coli* in 1/10 c.cm. on delivery of the milk; the milk must be bottled on the farm, and the name of the farm, the date of production, and the words 'Certified milk' must appear on each cap. (2) Grade A tuberculin tested (or T.T.) milk is the same as certified milk, except that the maximum bacterial count must not exceed 200,000, *Bacillus coli* must be absent in 1/100 c.cm., but the milk need not be bottled at the farm. The cap must be stamped with the address of the licensed bottling establishment, the date of production, and the words 'Grade A, T.T.' (3) Grade A milk is from cows that need not be tuberculin tested, but the herd must be inspected every three months by a veterinary surgeon. The bacterial count allowed is as in (2). The milk must be distributed from the farm in an unventilated sealed container, dated, and stamped 'Grade A Milk.' (4) Grade A pasteurised milk is milk which, after pasteurisation, does not contain more than 30,000 bacteria per c.cm., and contains no coliform bacillus in 1/10 c.cm. (5) Pasteurised milk is any milk that after pasteurisation does not contain more than 100,000 bacteria per c.cm. It need not be bottled. To these Dr. Chalmers Watson wished to add a sixth grade—milk only suitable for use

when cooked (*British Medical Journal*, May 16th, 1925, p. 943). From this summary of the authorised grades of milk it will be seen that the term "Grade A" is misleading, and that milk to which this title is given is really Grade C. One of the speakers in the discussion at Bath commented strongly on this deceptive nomenclature.

"From the addresses read before the Section it is plain that the matter under discussion involved two main problems: First, the production of milk as clean as circumstances will allow; secondly, the production of tubercle-free milk. The subject-matter of these problems was debated under two headings: the standard of purity of milk, and the means and cost of obtaining pure milk. Some of the speakers asserted once more that it was impossible under all conditions to maintain the standard of 3 per cent. butter-fats and 8.5 per cent. solids-not-fat, though difficulties with individual cows are often neutralised by the mixing of milk in bulk. Enlightenment was asked for as to any feasible way of increasing the vitamin content by feeding methods. With regard to pasteurisation, doubt was expressed as to the ability of very poor parents to pay for fruit juices to replace destroyed vitamins, and Dr. Eric Pritchard gave the interesting information that he had been quite unable to find any evidence in literature or in his practice of harm from the ingestion of toxins of either pathogenic or non-pathogenic organisms.

"An important part of the discussion was concerned with bacterial questions—the production of clean milk, with, on the one hand, a minimum number of bacteria (especially *Bacillus coli*), and on the other an absence of the tubercle bacillus. Putting aside for the moment all question of tubercle, and dealing only with dirtiness as evidenced especially by the colon bacillus, there appeared to be no doubt from the discussion that it is not difficult to produce milk that will reach the standard of 'Certified' or of 'Grade A.' Professor Walker Hall went so far as to say that instead of a bacterial count of 200,000 a count of 200 was possible even in summer; and several speakers asserted that they produced milk with a count of less than 1,000. At the same time, it is certain that the general production of Grade A milk is not practicable without a vast amount of further education. The general production of Grade A milk requires the greatest possible cleanliness in the collection of the milk. The cowsheds, if reasonably clean, are of far less importance than the cleanliness of the workers, of the pails, and of the cows. Anyone who is old enough to have observed the struggles of the surgeons who were pioneers in aseptic surgery, and their difficulties in keeping their hands out of their pockets or off their spectacles, will sympathise with the less educated milker in his attempts at learning primitive aseptic methods, with the farmer in the constant supervision he has to maintain, and especially with the small farmer who has to expend money on the provision of suitable plant, and time on the instruction of his workers in its use, and its maintenance in cleanliness and good order. The production of certified milk, with the obligation of bottling on the farm in such a way that when delivered to the customer it shall contain a minimal number of bacteria, is, at present, quite beyond the capacity of anyone except the owner of a 'crack' herd. The attitude most suitable for the present state of education and for present conditions is, probably, as follows: Let the general production of Grade A milk (unpasteurised) be the ideal aimed at; develop education as to the value of clean milk amongst producers, distributors, and consumers; but pasteurise as the safest course until education is more advanced. The objection that a general resort to pasteurisation may delay progress in getting really clean milk is not valid; a man when he has something of value to offer to the public, if not too much harassed by Government control, does not long allow himself to be quiescent. Attempts to go too fast are apt to produce again such statements as that made in one of the addresses: 'Recently five cases of bovine tuberculosis occurred in infants fed entirely on Grade A milk from a most reputable dairy!'"

"Turning now to the question of tubercle, the discussion showed that a far more difficult problem was presented. In the face of these difficulties, and in order that the public may not lose its head (though it is perhaps unlikely to do so, having had the subject before it so long and so continuously), it might have been well if the openers of the discussion had begun by stating the magnitude of the problem. How much disease is caused by bovine tuberculosis? One of the speakers said that between five and ten thousand children die annually from tuberculosis, chiefly abdominal, and for that reason perhaps mostly bovine. Therefore, though the mortality is not enormously high, yet, as was observed, much suffering and crippling is caused in many other non-fatal cases. Most of us do not desire to run the risk in ourselves or in our children of suffering from bovine tuberculosis, although there are some who think that tuberculous milk may serve to immunise children against tuberculosis. The matter is not yet ripe for dogmatic statement; there has been a very great decrease in mortality from tuberculosis, and panic measures are not justified. It will be possible to examine coolly the remedies proposed, and to refrain from expensive procedure unless the evidence that it is necessary is well established. It appears that there are about 2,500,000 milking cows in this country. It appears, also, that about 1,000,000 of these are tuberculous or would react to the tuberculin test. In addition, of course, there are large numbers of non-milking animals affected by the disease. It is impossible to eliminate bovine tuberculosis at once. As one of the speakers pointed out, the result of an attempt to do so would be a milk famine. The Government has recently introduced an Order similar to the Tuberculosis Order of 1914, to come into force on September 1st next, when the Milk and Dairies Acts take effect. These Acts prohibit the use for the production of milk of any cow which is giving tuberculous milk, or is suffering from tuberculosis of the udder or tuberculous emaciation. The Order will compel the slaughter of all such cows and any other bovine animal which may be suffering from tuberculous emaciation or from a chronic cough, and showing definite clinical signs of the disease. The owner is required to report such an animal to the police, and veterinary surgeons are required to report such animals to the local authority. After full veterinary inquiry such animals will be slaughtered, and the owner will be compensated at

the rate of three-quarters of the market value in non-advanced cases and one-quarter if the animal is affected in an advanced form. The minimum payment is 45s. This Order raises many questions, some of which are left in doubt by the discussion at Bath. The tuberculin test appears to be reliable, but some difference of opinion was shown to exist as to the respective value of the subcutaneous and the intradermal methods. The first test is somewhat exacting; it requires the taking of the temperature at intervals for eighteen hours. It does not seem certain how often it should be repeated; and it appears to be not easy to maintain a tubercle-free herd free from reinfection. The Order is confined to grosser lesions which can be recognised without the tuberculin test. But is it certain that a cow gives no tuberculous milk until the lesions are sufficiently gross to attract the attention of the farmer, the veterinary surgeon, or the inspector? During the discussion in the House of Commons, reported in the *Journal* of July 25th (p. 179), it was stated that the cost of compensation would probably be about £67,000 a year, and that only £17,000 of this would fall upon the local authority. But has any calculation been made of the increased inspection that will be required, and are the fees for veterinary services included? Mr. Quinton, Chairman of the Sanitary Inspectors' Association, asserted that inspection was effective in the Liverpool district. But Mr. Maggs was equally strong in asserting that in many places inspection is a farce; if he is right, a more thorough system of control will have to be added to the cost of the Order in such districts. As to tuberculous meat, it would seem that the lesions in the animals condemned will be too gross in most cases to allow of the carcases being sent to the butcher; but is disease of the udder always associated with such serious internal lesions as to need condemnation of the carcase for meat purposes?

"The questions as to the stage of the disease at which a cow begins to give tuberculous milk, and as to the necessity for the application of the tuberculin test to all milking cows, and the difficulties in the way of applying it, suggest that the results will be more satisfactory if hasty action is avoided. Dr. Stenhouse Williams, in his opening remarks at Bath, said that bacteriological standards could be employed in two ways—either as a method of public health control, or as a means by which the true essentials of the methods of handling milk, and the need for them if the trade is to be in a healthy state, can be brought home to the industry. And he added, 'The latter function will, in the end, to a great extent eliminate the necessity for the former.' The same remark can be applied to the problem of tuberculosis. The lines of progress in eliminating tubercle may be administrative or educative. The administrative method involves inspection, veterinary investigation, condemnation of unfit cattle, destruction, and compensation. At the present time sufficient machinery does not exist in most rural and many urban areas to make this method effective. Administrative control will have to be made general, and, however moderate the cost of compensation, it seems probable that the cost of administration must be great. Moreover, control is apt to arouse opposition; and unless in the present case its application is very gentle and judicious, there will be many attempts at evasion. One of the speakers at Bath said that he had little doubt that the minimum compensation of 45s. will tend also to be the maximum. The educative method proceeds on different lines, involves less expenditure, is less irritating, but is possibly slower in its action. Dr. Savage, M.O.H. for Somerset, was cheered when he gave his own solution of the difficulty of milk control—namely, to give the owner of the milk prompt notice (without prejudice) of the fact that his milk was below standard, and to provide facilities for examination before any question of prosecution was entertained. It was noticeable also that the value of milk competitions was mentioned by a large proportion of the speakers and disputed by none. Educative measures include the promotion of milk competitions, as is being done by many large firms of dairymen; instruction of the public as to what it should ask for; advisory assistance by administrators; exhibitions of good methods at agricultural shows; and, as a last resort only, the prosecution of those who offend through design and not through ignorance. The money that would be spent on the enforcement of harsh regulations would be more than sufficient for extensive propaganda.

"The present position of the supply of pure milk is one in which the immemorial contest is going on between State control and voluntary effort. If every human being aimed at the ideal there would be no need for control. If everyone was controlled the human being would become a machine, and progress would stop. If these premisses are accepted, then the aim should be a minimum of interference consistent with a reasonable probability that matters will improve. The symposium at Bath showed that the question is in the hands of very capable men; that the milk supply has improved enormously in purity, and is improving every day; that further examination and experiment will continue; and that the safest plan to avoid a setback to progress is that no rash step should be taken."

Glasgow College Appeal.

Professor Glaister, who presided at the prize distribution in Glasgow Veterinary College on October 21st, intimated that the Governors were determined to carry on the college, and would shortly appeal to the public of the West of Scotland for £30,000, which would enable them to endow the institution, improve the buildings, and make the college independent of anybody. They had already received about £8,000, and since he entered the room he had received another £100. (Applause).

Proceeding, the Professor said he could quite understand if the college had failed in its purpose and fallen into senility there should have been a desire to suppress it, but the institution had maintained its numbers of students, who had done exceedingly well in the diploma examinations of the Royal College of Veterinary Surgeons. The areas served by the Glasgow College contained half of the population and one-fifth of the area of Scotland; with livestock of 2¼ million sheep, 400,000 head of cattle and 450,000 horses, not to speak of dogs, pigs and other animals. That was surely a sufficient field for veterinary teaching in that city.

Mr. Gavin Hamilton, Convener of the County of Lanark, then presented the prizes.

The Veterinary Record.
31st October, 1925.

THE ADMINISTRATION OF THE TUBERCULOSIS ORDER.

Reports received during the period which has elapsed since the date of operation of the Tuberculosis Order, 1925, reveal evidence of difficulties in its administration which we believe to be due to defects in the construction of the Order and in no degree to incapacity on the part of those entrusted with the carrying out of its provisions.

Simplicity of requirement and interpretation was undoubtedly a great factor in the success achieved in the working of the Orders of 1913 and 1914. To their successor it has been deemed necessary to add a multitude of forms which, while no doubt of use in the compilation of statistics, materially increase the clerical work of the inspector, while confusion is further confounded by the complication of the Order with the Milk and Dairies Act, in view of the fact that these measures do not appear to dovetail. As a consequence the Medical Officer of Health is in some doubt as to whether to proceed under the Act or the Order.

The issue by the Ministry, to all Local Authorities, of the Diseases of Animals Branch Circular Letter No. 20, in elucidation of certain points connected with the administration of the Order, affords official confirmation of our information. It is unquestionably of assistance to the veterinary surgeon, and every inspector should see that he is placed in possession of a copy by his Local Authority. In this communication, the Ministry, while not prohibiting the application of the Tuberculin Test, indicate very clearly that they do not view its employment with favour. If rigid adherence is made, however, to the expressed wishes of the Ministry, the veterinary surgeon rúns a grave risk of making a wrong diagnosis—an event which would be not only prejudicial to him, but which might involve the Local Authority in very considerable expense by having to pay full compensation and £1 in addition. This position has been felt so acutely by some inspectors that they have warned their Local Authorities that either a mistaken diagnosis may be made, or they may not be able to deal with a considerable proportion of cases. The valuation placed on an animal by the owner will also be greater where the Tuberculin Test has not been applied.

There are many diseases which simulate tuberculosis, *e.g.*, a cow with parasitic bronchitis (husk) often has diarrhœa as well as a chronic cough and shows many of the symptoms of clinical tuberculosis. Again, a cow with Johnë's disease is very difficult to distinguish from a tuberculous, emaciated cow with diarrhœa. Many old cows have a chronic cough and emphysema of the lungs and, if heavy milkers, are often in poor condition, but their value soon after calving is very considerable to the owner.

There also seems to be a misapprehension among owners, and possibly veterinary surgeons, as to the scope of the Order. Cases are reported which do not come under any of the three categories as defined by the Ministry. There will be few cows that can be dealt with strictly under the Order that will have other than a small value. Some County Councils have put a limit to the value of cases dealt with, beyond which the inspector may not go, and perhaps this is a step in the right direction.

The amount given in compensation is already, it is understood, far more than that estimated, and inspectors should exercise great care in their choice of animals with which they should deal. Many owners are under the impression that nearly all tuberculous cows should be dealt with, and that very full compensation should be given; they resent it very strongly when told by the inspector that a certain cow either does not come under the scope of the Order, or that the value placed upon it is excessive. Much time is lost and friction caused as a result. It would be well if owners could be instructed in this matter.

It is hoped that the Medical Officer of Health will exercise his functions to the full extent under the Milk and Dairies Act, 1915, by taking samples of milk for examination for the presence of tubercle bacilli.

The elimination of living tubercle bacilli is most important from the public health point of view, and every effort should be made, by all concerned in the administration of the Order, to remove this source of human infection.

In the short period—about twelve months—during which the 1913 Order was in operation, 8,703 diseased animals were dealt with in Great Britain, and of these 16 per cent. of the English cases and 29 per cent. of the Scottish were disseminating tubercle bacilli in the milk, *i.e.*, about 1,500 tuberculous milk samples were traced to their source and the cows slaughtered; it is to be hoped that the 1925 Order will be equally effective.

In many cases, some experts say in 90 per cent., tubercle bacilli can be found with the aid of the microscope alone. There should not, therefore, be much delay in making a diagnosis in the majority of cases. In others, where the cows are showing clinical signs of

tuberculosis, a short cut can be made by slaughtering the cow as clinically affected.

A difficulty however, arises when, in inspecting a herd where the milk is found to be affected, several cows are showing suspicious lesions in the udder.

When tubercle bacilli are suspected of being present in the milk, the owner is at once notified under the Order that he is not allowed to use the milk unless sterilised, and this Order may apply until the result of the biological test has been ascertained—a matter of six weeks. If the milk from these cows cannot be used for six weeks, a great hardship is inflicted on the owner and some compensation should be allowed.

There is no mention of compensation in the Order, whereas under the Act, in Schedule 1, the course of procedure in such cases is laid down very fully, and provision is made for compensation to the owner.

From reports to hand the veterinary inspectors are working with great keenness, but they have been set an almost impossible task if they are to satisfy not only the Local Authority, but the owners and the Ministry of Agriculture. The question of compensation is the great stumbing block and they will be well advised to call in the services of a professional valuer in cases of any difficulty.

WHAT CONSTITUTES A SATISFACTORY DRUG ?

" In the discovery of specific chemicals as the medium of salvation from certain forms of disease, particularly those of infectious origin, lies a hope, perhaps somewhat utopian, for the medical progress of the future. Meanwhile, plans are being laid in various laboratories for such projects. The busy practitioner may not have given much consideration to all that this involves in respect to both constructive directions and criticism. A good summary of the requirements for a drug that can be considered a satisfactory therapeutic agent has recently been compiled by Christiansen, of the Medical School of Harvard University. The first dictum is that the effective therapeutic dose should be far below the toxic dose. Low toxicity is particularly desirable for drugs that are to be placed in the hands of patients. Ease of administration is extremely advantageous; the preference for a drug that can be used safely and effectively is obvious. Stability is a quality of great value, because a substance that decomposes readily entails financial loss and may either lose potency or acquire toxicity. Drugs should, as a rule, preferably exhibit ready solubility, and be susceptible of rapid absorption under all conditions in which they may be prescribed. When acute disease is involved or life is in danger, it is important that relief should be secured promptly. Drugs for use by injection should not only be readily soluble, but also withstand sterilisation without detriment. They should not injure the tissues locally, whether these be subcutaneous, muscular, or vascular. To act efficiently, the substance should not be excreted or destroyed in the body before it has had time to act on the infecting agent; nor should it tend to be excreted so slowly that accumulation in the internal organs may give rise to delayed symptoms of poisoning. Finally, tolerance to the drug should not be readily developed by the parasite against which the drug is to be used. These are, indeed, exacting demands. They illustrate the quandaries of the investigator in the field of the synthetic production of new drugs. They should also move us to a high sense of obligation when success, even in limited degree, crowns his efforts."—*Journal of the American Medical Association*, September 19th, 1925.

CLINICAL REPORT.

Tuberculosis in a Dog.

By C. S. M. HOPKIRK, B.V.Sc. (Melb.) Officer-in-Charge, Veterinary Laboratory, Wallaceville, N.Z.

An interesting case of tuberculosis came under observation recently. The patient was a Harrier bitch which was being imported, by a well-known kennel club, into New Zealand from England. The animal appeared well during the voyage and was served by a Harrier dog just before landing into quarantine. Symptoms first became apparent at the end of the first month, when the keeper noticed that the dog appeared to be a little blind. An examination showed some degree of canker involving the middle ear on the left side, partial deafness and incoördination of movement. At this point the bitch was forwarded to the Veterinary Laboratory for observation. She was noticeably pregnant but appeared to be in good condition. She was very restless and a striking factor was the continuous walking in a circle, usually to the left side, but occasionally, when disturbed, to the right. An examination of the eyes showed no structural alteration. A few days later she was found to be quite deaf and, later still, her faculty of smell appeared to be deserting her.

In about 14 days, during which time the ear was under treatment, the animal showed paraplegia, and finally was quite unable to get about. A tentative diagnosis was made of a tumour in the brain or else tuberculous meningitis. A Calmette tuberculin test gave no noticeable reaction.

During the paralytic period, the bitch gave birth prematurely to three dead pups at intervals of a day, and it was then thought that she was a little brighter. However, death took place a few days later, about seven weeks from the time of landing in New Zealand and just three weeks after symptoms were first noticed. Her bowels were more or less normal throughout. Feeding was accomplished at first by placing meat directly into the mouth, later milk or beef broth was given from a bottle, while still later, just before death, the animal could not take food herself in any form, though a small amount was given carefully with the spoon.

A *post-mortem* examination was carried out and gave the following results:—

The lungs showed tuberculous necrosed foci and an old standing pleuritic adhesion on the right thoracic wall.

The mesenteric glands were considerably enlarged and broken down centrally into a white mass of the consistence of cream and in this material were millions of acid-fast bacilli. The other abdominal organs appeared normal.

The brain showed no sign of any neoplasm, but the right lateral ventricle appeared enlarged, as though distended with fluid.

(Continued at foot of first column next page.)

REVIEW.

Official History of the Army Veterinary Services in the Great War.

(Reviewed by Major-General Sir FREDERICK SMITH, K.C.M.G., C.B., F.R.C.V.S.).

Fifth Notice.

THE BALKAN FRONT.

This chapter is contributed by Brigadier-General F. Eassie, whose name for many years has been identified with the subject of horsemanagement, especially as applied to large masses of sick, lame, debilitated, or other animals. His principle is to place them under conditions where they can do a great deal for themselves, and so to reduce to a minimum the actual personnel required for looking after them. To this end he has for long devoted his abilities and inventive genius to devising a system of construction by which exercise, watering and feeding are automatically carried out by animals not under individual control, and all who have witnessed his method cannot fail to be impressed by its value and originality. The system is figured at p. 630, though his name is not attached to it.

He begins with an account of the climatic and physical features of the country in and around Salonika, and then plunges into the question of animal management. At first this was far from satisfactory at Salonika; forage was short, uncrushed barley could not be digested; sand was eaten to obtain bulk, and debility extended.

The static military position obtaining in France and Belgium also prevailed in Salonika; the batteries were in a fixed position, and the horses without proper attention. General Eassie's revolutionary system was given a trial; the animals were allowed their freedom, being turned out to graze and take their own exercise. Both horses and mules were allowed to wander about for the greater part of the day: the exercise improved digestion, and the animals put up condition. "In cold and rain they turned their tail to the wind, in hot weather they sought shelter; they returned to their lines for feeding with the utmost punctuality, and a revelation in management had been effected, which soon became compulsory for all Divisions."

We are then shown how a change in system led to fresh interest being taken by units, so that standings were paved, wind screens erected, and hay chopped by improvised methods. The results of the change in system were shewn when the Divisions became mobile and marched into the interior; the 26th Division did its 500 miles in bad weather over the worst of roads and came successfully out of this severe trial.

We are then told of the steps taken to reduce the strain of veterinary supervision during the shortage of officers from sickness or other causes. This was effected by forming and training a subordinate sanitary and first-aid service, responsible for isolating anything of a suspicious nature until it could be seen by a veterinary officer. Throughout the campaign a standardised wound dressing was employed consisting of oil, creosote and petrol: this was applied to all wounds, and probably saved the Force from infection by epizootic lymphangitis. Our neighbours the French at one time had 600 cases of this disease under treatment. In the three years of our occupation we only had thirteen cases, and of these five were imported.

During the advance, the system of veterinary evacuation worked well, being greatly helped by the method of leading twenty or more horses on a single rope, enabling the mobile sections and veterinary posts to do three times the amount of work.

The hospital arrangements were in accordance with General Eassie's scheme of enabling the less serious cases to do much for themselves. He pays a tribute to the hospital personnel for the work they put into the actual construction of the buildings. The hospital annexe was for convalescent cases, and contained enclosures and exercising track. These enclosures were laboriously stoned and paved when necessary.

The method of disposal of manure was by fire. The system is described; it was so effective that it was adopted by nearly all camps at the base, and many in the Field.

The hospitals grew their own crops, and had 1,500 acres under cultivation.

One remarkable fact must be narrated before bringing this notice to a close. During the last eighteen months of the war contagious diseases were *unknown* in this Force, though the risk of infection from without had increased rather than diminished. This astounding record is without parallel in military veterinary history; it is its own tribute to the administrative ability of Brigadier-General Eassie and the devoted service of his officers. In this connection it must be remembered that the system of turning horses loose to mix freely with each other is to invite disaster unless their freedom from contagious disease is assured. We can, therefore, realise the confidence General Eassie felt in the judgment and ability of his officers.

The war being over sees this ingenious and able administrator retired for age, but he has left behind him in the service a memorial which will last as long as horses and mules are employed in war by a British Army.

MESOPOTAMIA.

The opening pages of the 13th Chapter tells us something of the climate and physical characters of

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(Continued from previous page.)

Small tuberculous nodules were also noted on the chorioid plexus. No acid-fast organisms were found in the spinal fluid. No further lesions were to be seen, but the second horn of the uterus contained two unborn pups.

Mesopotamia, the cradle of the world's oldest civilisation. When war opened with Turkey, and Mesopotamia came into the sphere of operations, it fell to the Government of India to do the needful work. We know how they discharged their duty! This, the first phase in the campaign, lasted from November, 1914, to October, 1916, two years of hideous mismanagement. The War Office relieved the Government of India of its responsibility in the autumn of 1916, and from that date to the end of the war constitutes the second phase.

It is not easy to follow the official account; the student will have to construct his own story from the *data* given. We prefer to start with the mobilisation in India of the ill-fated 6th Division at Poona (the composition of which is not given, nor the strength in animals), and here we see a regular division being augmented by troops belonging to Native States, which bring glanders with them on mobilisation. These troops, in time of peace, are not under European veterinary supervision, so that nothing could be known of the health of their animals until they presented themselves for embarkation. They were not the only offenders. The cavalry regiments of our native army are not under European veterinary supervision: nothing is known of their sanitary condition until they mobilised, when they at once come under skilled observation. The result of this showed that glanders existed. This state of affairs is an old, old story. The Government of India, from motives of economy, declines to have European veterinary officers with its native cavalry, the result being that it is impossible to say at any time that a regiment is free from disease. Indian troops took glanders to Abyssinia in 1868, to Egypt in 1882 (in this campaign a regimental officer died from the disease), to Mesopotamia in 1914, and to Egypt in 1915. It is worthy of the cunning with which Asia abounds, that the Indian Government declines to furnish native troops with skilled advice during peace, knowing that in war it will obtain this advice free of cost from the servants of the Imperial Government. Although in the present case it obtained this advice at Poona, cases slipped through, and the native cavalry carried glanders with them to Mesopotamia, increasing the work of an impoverished veterinary staff and adding to the anxieties of a commander.

Three officers A.V.C. accompanied this Division from India, together with a Field Veterinary Hospital. We are not told whether the number of veterinary officers was according to Indian War establishments, but it evidently was miserably small, and made no allowance for sickness. The hospital was Gilbertian. In peace it was represented by a cumbrous and impracticable veterinary chest, out of date and inadequate; its military equipment was equally meagre, for example, "one pick axe" It possessed one veterinary officer and one British N.C.O., who may or may not have previously met. The remainder of its personnel (native) was drafted from here, there, and everywhere, and wholly untrained to its duties; and finally the transport provided was inadequate.

The Division arrived off the mouth of the Tigris and Euphrates and was probably surprised to find that there were no facilities for disembarking; a few barges and tugs represented all that was available. The animals had to be slung over the side one by one into barges, towed to the shore and landed by ramps. It was a good thing the landing was not disputed. Before the war was over there were miles of wharves and jetties, alongside of which ocean-going vessels could discharge and animals walk ashore.

By the end of November, 1914, the A.V.C. personnel and veterinary hospital were located in the Turkish cavalry barracks at Basra, and now the microscopic veterinary service sent from India found that not only had it to rid the 6th Division of contagious diseases introduced by its allies, but the place at which the force had landed was a veritable hotbed of animal plagues—glanders, and epizootic lymphangitis being enzootic. This was an extremely delicate situation, which only those who know the East can properly appreciate. The inhabitants of Basra were, no doubt, not too pleased to see us, and to follow our arrival up by destroying their property for diseases they openly tolerate, would in a few hours have created a position too serious to contemplate. Let it be read in these pages how it was accomplished that disease among civil animals was cleared up at the base, as a preliminary to keeping our own force free, not only without giving offence to the Arabs but actually with their co-operation.

From November, 1914, to December, 1915, the military operations may be summed up in a few words; the Turk was being gradually pushed north by flank operations and then a central advance. The further the Force got north, the greater the difficulties in the matter of supplies for the British, and the easier for reinforcements for the Turks, until at last they were strong enough to turn and bite off the head of the advancing Force, which was subsequently lost for ever at Kut.

Prior to this, another Division had arrived from India bringing two veterinary officers (with all British Divisions there were at this time nine veterinary officers), a welcome addition but, owing to casualties, only one veterinary officer was available for duty with it, and his staff consisted of a British shoeing smith and ten Indian grooms! He had his hands full, for, apart from the ordinary casualties befalling the Division, he had an outbreak of anthrax to deal with and was compelled to witness the entire destruction of a camel corps from this disease. Two more hospitals had arrived from India and were situated behind the fighting front one on the Euphrates and the other on the Tigris. The latter located at Amara was in an important position for doing good work, not only for the troops in the locality but for cases evacuated.

It was now the end of the year 1915, and every month of the war had seen the growth of the campaign and with it, as ever, the growth of the base. Here there were remounts and a depôt but no remount officer; there was a cavalry depôt for the collection of men and animals fit for the front, but no officer; there was a base depôt of veterinary stores and a

convalescent veterinary depôt. All these services, including the remount and cavalry depôts, were, in spite of its meagre staff, in the charge of the A.V.C. up to the date mentioned.

January, 1916, saw the arrival of three Divisions from France and Egypt, properly equipped with hospitals, mobile sections, and a full complement of officers. The terribly up-hill work of the past was eased and with the fall of Kut in April it became evident that India was not competent to conduct a campaign outside her own shores. By October, 1916, the work had passed into the hands of the War Office. The record of those two years under Indian Government mismanagement and incompetence is a nightmare.

The general advance on Baghdad took place on 13th December, 1916, in the worst of weather; wet weather not only impedes the movements of troops, but paralyses transport, and when all forage has to accompany the Force, paralysis of transport means reduction in rations. This occurred during the last week of December, when forage was reduced by 25 per cent. It was three months before Baghdad was reached, and the cavalry operations, wastage and veterinary operations are duly recorded. We regret not being able to give an account of this great cavalry effort, which brought the war to a successful conclusion. All-night marching, shortage or absence of water, limited forage, positions taken at the gallop, long hours under saddle, insufficient time for rest or feeding, even when a scanty forage supply was available, terrible heat and dust storms, combine to make a picture which even a layman can read. Among the records of casualties, the table on page 315 appeals to us as approaching perfection. The events were stirring, the distances covered were considerable, but we are not told the strength in horses, so cannot calculate the percentage of loss.

This is the only seat of war in which reference is made to the fact that certain cavalry brigades failed at times to make proper use of their mobile veterinary sections. It is presumed they were Indian and not British brigades. Throughout this chapter much confusion arises from the fact that neither the composition nor nationality of the brigades is given. This has an important bearing in connection with animal losses and inefficiency, for the Indian cavalry ride lighter than our men.

Mesopotamia is apparently a country of animal diseases, and almost every epizootic appears to have been met with. Perhaps the account of greatest interest is that dealing with biliary fever and its treatment by the intravenous injection of quinine. We are not told who discovered this method (perhaps I ought to know), but it was apparently Lieut.-Colonel A. J. Williams, R.A.V.C., whom we should like to thank, with an expression of regret that he had not lived many years earlier, when the writer was vainly endeavouring to deal with this disease in India. The occupation of the Turkish cavalry barracks at Basra does not appear to us to have been a wise step. The Turks are not distinguished exponents of high sanitary measures, and other diseases besides biliary fever might have been contracted from what they left behind.

Before properly equipped hospitals arrived in the country, every endeavour had been made to do the best for the sick with the personnel and material available. Wood did not exist in the country—the very firewood had to come from India—and to erect a structure of mud, reeds and palm leaves was the only alternative. This was done; tents thrown over the mud walls and palm leaf roofs gave good shelter against the sun and rain; more than once in this report the value of tent shelters is praised.

The question of hospital drainage was a difficulty, the country was practically a dead level, yet hospital paddocks had to be drained in wet weather. For this purpose, a pit twenty feet deep was dug and protected by a mud wall; into this by means of trenches the storm drainage was conducted and it passed away by soakage.

The disposal of the dead was equally difficult; burial was generally out of the question, as in the rains the river came over the banks. Disembowelling, drying in the sun, and subsequent burning were practised.

The degree of perfection to which hospital arrangements subsequently arrived, is indicated by the fact that in the hospital at Baghdad a swing operating table of local manufacture was in use. It was designed by Captain Laing and Farrier-Quarter-Master-Sergt. Nunn, of the Subordinate Veterinary Corps of India. In nine months 500 animals were dealt with on this table without an accident. One of the pleasant features noted in this history is the willing co-operation in all seats of war of the rank and file of the Corps in connection with hospital construction and improvements. Farrier-Quarter-Master-Sergt. Nunn must have put in many hours at the fire in a tropical country forging the iron work for this table. If it is he who is standing on the left in the photograph, we are glad to see that his condition did not permanently suffer.

Colonel W S. Anthony and Lieut.-Colonel A. J. Williams supplied the material on which this chapter of the history is based. We salute those gallant fellows who were dumped down in this tropical wilderness at the beginning of the war, given an impossible task, starved in personnel, equipment and transport, and yet carried on for nearly two years until organised relief arrived.

Appointment.

The Agricultural Committee of the Glamorgan County Council have appointed Mr. J. Howard Jones, O.B.E., M.R.C.V.S., to be Veterinary Inspector to the County of Glamorgan. Mr. Jones has been senior assistant in the Veterinary Department of the Edinburgh Corporation, since 1919, to which post he was appointed immediately after his demobilisation. He had an excellent war record, being three times mentioned in dispatches, and in further recognition of his services he was made an officer of the Order of the British Empire (O.B.E., Military Division),

ABSTRACT.

Researches on Coccidia of Rabbits.

In 1878, Rivolta studied those parasites and named them *Psorospermium cuniculi*. Leuckart, in 1879, stated there were two distinct species of Coccidia in rabbits and named them *Coccidium oviforme*, and *Coccidium perforans*. Later, Raillet and Lucet formed a similar opinion and named them *E. stiedae* and *E. perforans*. The opinion of Metzner that only one species existed had previously prevailed.

Dr. Perard, a French veterinarian, working in the laboratory of M. Mesnil, has arrived at definite conclusions on the subject, and states :—

1. There are two distinct species of Coccidia.

2. The two species produce two different diseases, both of which may be present in the same animal.

3. It is possible to separate the two species based on the differences in the rapidity of their evolution in the same animal, and the direction of the segmentation of the oocysts in cultivation media. Those durations, under favourable conditions, are respectively 30 hours for *E. perforans* and 60 hours for *E. stiedae*.

4. The ingestion by young rabbits of a portion of a culture containing segmented oocysts of *E. stiedae* produces, as previously stated by Lucet, the evolution of a pure hepatic coccidiosis, shown by an enormous hypertrophy of the liver, which may, in some cases, weigh more than one-third of the total weight of the affected animal.

Experimental feeding generally results in the death of the animal in three weeks to one month.

5. Segmented oocysts of *E. perforans*, when administered under similar conditions to young rabbits, produce an intestinal coccidiosis, the disease increases rapidly and terminates in the death of the animal in six to fifteen days.

The disease produced by *E. perforans* is by far the most fatal to young animals affected under natural conditions due to the rapid evolution of the parasites and the intensity of the lesions which occur in the damaged intestines.

6. The principal symptoms are enlarged abdomen and diarrhœa of the rabbits affected with either type of coccidia—the enlarged abdomen is due in one case to hypertrophy of the liver and in the other case to the hypertrophy of the intestines. In some cases there exists polyuria.

7. The oocysts of the two species possess different characters which permit them to be identified either in pure or in mixed infections.

E. perforans.—The oocyst is ovoid in form and measures on an average 25.5μ long by 15.5μ wide, with the micropyle generally closed, rarely coloured and possessing after segmentation a " segmentation residue," spherical in shape and free in the middle of the four sporocysts, each of which also contains a small residue composed of small granules one to three μ in diameter.

E. stiedae.—The oocyst is a longer ovoid than *E. perforans*, and often slightly unequal, measuring 37.5μ long by 21.5μ wide, with the micropyle often open, coloured orange yellow; it *does not* possess after segmentation any free " segmentation residue," but it has a residue in each sporocyst similar to that of *E. perforans*.

8. In certain infections, exclusively intestinal, there are frequently found some coloured oocysts with dimensions similar to that of *E. stiedae* and the micropyle open, but the presence after segmentation of a " free spherical residue," shows that they are *E. perforans*. Perard proposes for those the name " magna."

9. If the disease in cattle, in which the question as to different species has not yet been decided, is disregarded, it seems one could say that *E. stiedae* and *E. perforans* are coccidia peculiar to rabbits.

10. The oocysts can be preserved in the non-segmented condition on ice or in a cold chamber, at a temperature between 0°C. and 2°C.

11. Bacterial culture, and especially putrefaction, hinders segmentation and generally destroys the oocysts.

12. Segmented oocysts maintained in liquid media free from bacteria at a temperature between 0°C. and 38°C., remain living for a time as yet undetermined, but certainly more than one year.

13 The majority of chemical substances employed as disinfectants have no destructive action on the oocysts ; on the contrary, many of them favour their preservation and evolution by destroying the bacteria present.

14. Dessication completely destroys the oocysts, irrespective of the temperature.

15. The oocysts are killed when heated to a temperature over 40°C.

16. The oocysts are destroyed if they are frozen.

17. The oocysts which have sporulated are more resistant than those which have non-segmented. It is, therefore, indicated for the prophylaxy of coccidiosis, that attempts should be made to destroy the oocysts when they are freshly excreted and before their resistance is increased by sporulation.

18. Those results being more of a biologic than of a specific nature, permit the formation of an opinion that they will apply equally to other coccidia and thus form a basis for a rational prophylaxy in dealing with coccidiosis of mammals and birds.—T. D. Y.

(**Recherches sur les Coccidies et les Coccidioses du Lapin.** by Dr. PERARD. Translated from *Revue Générale de Médicine Vétérinaire*. Août, 1925).

Mr. J. Ewing Johnston, M.B.E., M.R.C.V.S., 28-30 May Street, has been appointed to the Commission of the Peace for the city of Belfast. Mr. Johnston is the president of the North of Ireland Veterinary Medical Association.

Major J. W. Crowhurst, F.R.C.V.S., of Cape Town, having reached the age limit of service with the Reserve of Officers, Section iii. (Veterinary Branch) of the Union Defence Force, has been placed upon the retired list.

Royal College of Veterinary Surgeons.

Quarterly Meeting of Council.

A Quarterly Meeting of Council was held at 10 Red Lion Square, London, W.C. 1, on Friday, 2nd October, 1925, the President, Mr. J. Clarkson, occupying the Chair. The following members signed the Attendance Book: Major J. Abson, Major-General Sir L. J. Blenkinsop, Dr. O. Charnock Bradley, Lieut.-Colonel J. W. Brittlebank, Professor J. B. Buxton, Mr. J. H. Carter, Professors J. F. Craig, S. H. Gaiger, Mr. A. Gofton, Major F. T. G. Hobday, Messrs. P. J. Howard, R. Hughes, G. H. Livesey, G. H. Locke, Sir John M'Fadyean, Messrs. J. W. McIntosh, J. McKinna, G. P. Male, Major-General Sir John Moore, Mr. W. D. Rees, Professor J. Share-Jones, Major P. J. Simpson, Messrs. S. H. Slocock, T. F. Spencer, Sir Stewart Stockman, Messrs. H. Sumner, J. Willett, Professor G. H. Wooldridge, and Lieut.-Col. T. Dunlop Young.

The *Minutes* of the last meeting, having been circulated, were taken as read and confirmed.

The Obituary List was read.

The Secretary read the list of members admitted since the last quarterly meeting.

The receipt of letters of apology for absence from Messrs. W. S. King and J. C. Coleman was announced.

Finance Committee.

Mr. J. McKinna read the following Report, and moved its reception and adoption:—

I. *Chairman.*—It was resolved—

That Mr. J. McKinna be appointed Chairman of this Committee for the ensuing year.

II. *Minutes.*—The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

III. *Financial Statement.*—The Treasurer submitted his Financial Statement for the Quarter showing a balance in hand of £57 3s. 8d. and Liabilities amounting to £153 12s. 1d.

It was resolved—

That the Treasurer's Statement be approved and that he be authorised to pay the Liabilities shown, together with cheques for Monthly Salaries, Petty Cash and Wages, Gas, Electric Light, Insurance and Telephone.

IV. *Annual Fees.*—The Secretary was authorised to take the usual proceedings in the County Court in the case of those members whose Annual Fees were in arrear for two years and upwards.

V. *Local Secretary.*—The Secretary reported the position with regard to the Local Secretaryship in Scotland, and

It was resolved—

That the Local Secretary's fee remain at 30 guineas per annum as heretofore.

VI. *Chief Clerk.*—A letter of resignation was received from Mr. F. Knight of his position as Chief Clerk in consequence of his appointment as General Secretary to the National Veterinary Medical Association.

It was resolved—

(*a*) That the resignation of Mr. F. Knight be accepted.

(*b*) That a Sub-Committee be appointed to consider the question of filling the vacancy and the general question of the organisation of the office staff, with power to act.

(*c*) That the Committee consist of the President, Chairman, Treasurer, Lieut-Col. Brittlebank, Mr. G. H. Locke and Sir John Moore.

Mr. J. H. Carter seconded the motion for the reception and adoption of the Report, which was carried.

Examination Committee.

Professor J. B. Buxton read the Report of the Examination Committee as follows:—

I. *Chairman.*—It was resolved—

That Professor J. B. Buxton be appointed Chairman of this Committee for the ensuing year.

II. *Minutes.*—The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

III. *Reports on July Examinations.*—Reports were submitted from Local Secretaries, Delegates, and Chairmen of the Board of Examiners on the July Examinations, and considered.

(*a*) It was reported that, at the Written Examination held in Liverpool, a candidate was found in possession of a text-book and that the President had ruled that, in view of this breach of the Byelaws, the candidate could not be admitted to the Oral Examination.

It was resolved—

That the action of the President be approved.

(*b*) It was reported that, at the Class A Oral Examination at Liverpool, one candidate having been rejected in Chemistry, a vote by the Examiners was taken and by 4 votes to 3 it was decided that the candidate should be given pass marks.

It was resolved—

That in the opinion of this Committee the action taken by the Board of Examiners with regard to this student is contrary to Byelaw 78.

It was further resolved—

(*c*) That in the opinion of this Committee the Local Secretary is acting within the compass of his duties when he intervenes with the intention of preventing a Byelaw of the College being violated.

(*d*) That in the opinion of this Committee the marks assigned by the Examiners in any subject shall, notwithstanding the opinion of the Board as a whole, not be raised without the consent of the majority of the Examiners in that subject.

(*e*) That this resolution be inserted in the Instructions to Examiners.

(*f*) That letters of thanks be addressed to those persons and institutions who rendered assistance to the College in the conduct of the Examinations.

IV. *Fellowship Examinations.*—The Secretary reported that two Examinations for the Fellowship Diploma had been held, *viz.*, on July 22nd and August 25th, and that the following candidates had been successful:—

Examination held on July 22nd: R. F. Montgomerie.

Examination held on August 25th: Glyn Lloyd.

V. *Educational Certificates.*—(*a*) Educational Certificates Nos. 2893-2941 and 2948-2960 were submitted, and

It was resolved—

That with the exception of No. 2893 the certificates be accepted.

(*b*) A certificate issued by Daniel Stewart's College, Edinburgh, was submitted, but

It was resolved—

That, as the certificate is not one of those recognised, the candidate be informed that it cannot be accepted without further information as to the standard of the examination passed, if any.

VI. *Concessions.*—(*a*) Applications were received from candidates Nos. 2942, 2943, 2944 and 2961 for concessions for the acceptance of incomplete educational certificates conditional upon their passing the required subjects during their first year's course.

It was resolved—

That the applications be not acceded to.

VI. *Concessions.*—(*b*) An application was received from candidate No. 2944 for the recognition of certificates of having passed the R.I.C., Cadetship Examination, 1907, but

It was resolved—

That the application be not acceded to.

VII. *Exemptions.* It was resolved—

That candidates Nos. 2945 and 2957 be granted exemption under Byelaw 62 in virtue of their holding a recognised University Degree, subject in the case of candidate No. 2957 to the receipt of evidence as to the satisfactory standard of the examination.

VIII. *Byelaw* 95.—It was resolved—

That candidate No. 2947 be exempted under Byelaw 95 in virtue of his possessing the Diploma of B.V.Sc. of the University of Toronto.

IX. *War Service Concessions.*—(*a*) Applications were received from five candidates who failed in one subject at the July Examination, for permission to pass to the next year's course conditional upon their passing in the required subject at the December Examination.

It was resolved—

That the applications be acceded to.

It was resolved—

(*b*) That the concession granted to candidate No. 2216 to take Materia Medica alone at the July Examination at which he failed, be extended to the December Examination.

(*c*) That the concession granted to candidate No. 2369 to take Materia Medica alone at the July Examination, be extended to the December Examination.

(*d*) That the application from candidate No. 1644 for permission to sit for re-examination in Class D in December without previous attendance at College, be not granted.

X. *Medical Certificate.*—A Medical Certificate was received in respect of candidate No. 2867 who was absent owing to illness from the July Examinations, and

It was resolved—

That his examination fee be held over to the December Examination.

XI. *D. V.S.M.*—An application was received from Mr. Zaki Morcos, M.R.C.V.S., D.V.H., for permission to take the D.V.S.M. in June 1926, without attendance at the course.

It was resolved that the application be not acceded to.

XII. *Correspondence.*—(*a*) A letter dated 24th September, 1925, was received from Professor Gorton suggesting that the new Regulations with regard to the examination in Anatomy should apply to students presenting themselves for the examination in Class A in December. The Secretary was instructed to reply that the new Regulations would only affect candidates entering upon the veterinary course during the present term.

(*b*) A further letter dated 21st June, 1925, was received with regard to the teaching of the subject of Anatomy, and the Secretary was instructed as to the reply to be sent.

(*c*) A letter was received from Professor Whitehouse calling attention to the apparent difference in the method of marking by the Examiners in Class D from that adopted by the Examiners in Classes A, B and C.

It was resolved—

That no action be taken.

(*d*) A letter was received from Mr. T. Grahame for the temporary loan of his Fellowship Thesis, and

It was resolved—

That the Secretary be authorised to comply with his request.

He moved its reception and adoption.

Dr. BRADLEY seconded the motion.

Mr. J. H. CARTER: It is reported that at Class A Oral Examination at Liverpool one candidate, having been rejected in chemistry, a vote by the examiners was taken, and by four votes to three it was decided that the candidate should be given Pass marks. Is not that something very unusual?

The PRESIDENT: I think it is a question for the examiners to decide. In the second case, where the student had failed in Anatomy, the student was re-examined, and the second examination was quite satisfactory.

Mr. CARTER: The first one was not?

The PRESIDENT: No.

Mr. CARTER: It is within the powers of the examiners to re-examine a man?

The PRESIDENT: Yes.

Mr. CARTER: And to give Pass marks?

The PRESIDENT: They have done so in this case.

Mr. CARTER: Is it usual?

The PRESIDENT: Quite.

Professor SHARE-JONES: Do I understand it is your ruling, Sir, that it is unusual for the examiners to raise a candidate to Pass marks at the meeting which is held at the end of the Examination, and that it is a thing which has not been done before?

The PRESIDENT: I think we all know that it is usual to raise the marks a certain proportion if the examiners see fit to do so at the time.

The motion for the reception and adoption of the Report was then put and carried.

REGISTRATION COMMITTEE.

The SECRETARY read the following Report:—

I. *Minutes.*—The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

II. *Cases.*—No. 2074, Poor People's Dispensary for Sick Animals. Non-members. Advertising veterinary

treatment. The Secretary read a letter he had addressed to the Earl of Shaftesbury with regard to the propaganda by this Association and submitted an acknowledgment received from His Lordship stating that the matter was receiving attention.

No. 2093, member. Application for re-hearing. An application was received on behalf of this member for a re-hearing of the case decided at the Meeting of Council, held in October, 1924, but in view of the correspondence submitted

It was resolved—that no action be taken.

No. 2095, Hughes, I.A., non-member, "Veterinary Adviser." The solicitor reported a prosecution in this case with a conviction and fine of £5 and £10 10s. towards costs.

No. 2136, non-member, "Veterinary Surgeon." This case was removed from the list pending the receipt of further evidence.

No. 2138, member, covering. An explanation was received in this case which was accepted.

No. 2145, Cole, W.C., non-member, "Animal Specialist." The solicitor reported a prosecution in this case with a conviction and fine of £2.

No. 2150, member, touting. The Secretary reported that he had failed to obtain further evidence in this case, but he was instructed to write to the member explaining the views of the Council on his conduct.

No. 2151, member. This member appeared to show cause why his name should not be removed from the Register for a breach of Byelaw 53 (ii). He was represented by his solicitor and submitted explanations of the alleged breaches of the Byelaw.

It was resolved—that the explanation submitted be accepted.

No. 2152, McLeod, E., non-member, "Canine Surgeon." The solicitor reported a prosecution in this case with a conviction of £2 and £5 costs.

No. 2154, Buckingham, J., member, conduct. The Secretary submitted a letter from this member which was ordered to be filed for reference.

No. 2155, member. Employment of unqualified assistant. An explanation was received from this member which was accepted as satisfactory.

No.2156, Keleghan, G.H., non-member, giving Veterinary Certificate at Auction Sale. A letter was received from the Secretary of the R.S.P.C.A. in reference to this case, which was considered satisfactory.

No. 2157, Wright, D.M., non-member, use of College Crest. An undertaking was received in this case.

No. 2159, non-member, "Canine Specialist." The solicitor reported that he had been unable to obtain satisfactory evidence for a prosecution, and it was ordered that this case be struck out.

No. 2160, member, covering. This member appeared to show cause why his name should not be removed from the Register for a breach of Byelaw 53 (iii). He was represented by Counsel, but after hearing the case

It was resolved—that the Committee are not satisfied with the explanations submitted.

No. 2161, George, W.W., non-member, "Hon. Vet. Surgeon." An explanation and undertaking were received which were accepted.

No. 2162, Ross and Son, non-members, "Canine Specialists."

No. 2163, Sanders, W.E., non-member, using title.

No. 2164, Foreman, F.M., non-member, using title.

These cases were ordered to stand over for further evidence.

No. 2165, Aris, T.A., non-member, using title. An undertaking was received in this case.

No. 2166, member. Convicted of drunkenness while in charge of a motor car. The Secretary was instructed to send the usual warning notice to this member.

No. 2167, member. Convicted of drunkenness after pleading guilty. The Secretary was instructed to send the usual warning notice to this member.

No. 2168, non-member, name removed under Section 5, Sub-section 4 of the Act, covering unqualified person. The Secretary was instructed to communicate with this person asking for an explanation and undertaking.

No. 2169, member, Display of large sign. The Secretary was instructed to communicate with this member pointing out the breach of Byelaw 53 (i).

No. 2170, Kemp, E. A., non-member, "Canine Doctor." This case was referred to the solicitor with authority to prosecute if satisfactory evidence is obtainable.

No. 2171, member, Advertising by board. The Secretary was instructed to communicate with this member calling his attention to the breach of Byelaw 53 and asking for an undertaking.

No. 2172, member, giving testimonial. The Secretary was instructed to require a satisfactory explanation from this member, failing the receipt of which the member to be called upon to appear at the next meeting of the Committee to show cause why his name should not be removed from the Register for a breach of Byelaw 53 (v).

III. *Correspondence.*—A letter was received from a correspondent asking whether a former member of the College whose name had been removed from the Register at his own request, was permitted to continue to display his diploma of Fellow of the College in his surgery. The question was submitted to the solicitor for his considered opinion.

IV. *Restoration.*—An application was received from Mr. Edward Watson, whose name had been removed from the Register in 1922 under the operation of Section 5, Sub-section 4 of the Veterinary Surgeons Act, for the restoration of his name to the Register. The application was found to be in order and

It was resolved to recommend—that the Registrar be authorised to restore the name of Edward Watson to the Register of Veterinary Surgeons.

The PRESIDENT proposed the reception and adoption of the Report.

Mr. J. ABSON seconded the motion, which was carried.

Authority was given for the use of the Seal of the College for the purpose of the prosecutions recommended.

The PRESIDENT: I propose that the name of Edward Watson be restored to the Register.

Mr. WILLETT: Will he pay the back fees before he is again admitted, or are those forgiven him?

The PRESIDENT: I am afraid we cannot charge him with those.

It was agreed that the name of Edward Watson should be restored to the Register.

PARLIAMENTARY COMMITTEE.

Mr. A. GOFTON read the Report of a meeting of the Parliamentary Committee held on Thursday, 1st October, the Report of the meeting held on Tuesday, 14th July being taken as read, it having been circulated. He moved the reception and adoption of these Reports.

Mr. HUGHES seconded the motion. The Reports are as follows:—

Meeting of 14th July, 1925.

I. *Chairman.*—It was resolved that Professor Buxton be appointed Chairman of the present meeting.

II. *Minutes.*—The minutes of the previous meeting, having been adopted by the Council, were taken as read and signed as correct.

III. *Public Health (Meat) Regulations, 1924.*—The position of veterinary surgeons under the Public Health (Meat) Regulations, 1924, was considered and it was resolved

(*a*) That a letter be addressed to the Ministry of Health calling attention to the omission of any definition of a Veterinary Inspector in the Regulations and the effect of that omission, and asking that further instructions be sent to Local Authorities making it clear that Veterinary Surgeons, on account of their special training, are specially fitted to be appointed under the Regulations as the "Inspectors" referred to in Parts I and II of the Regulations.

(*b*) That the drafting of the letter be left in the hands of the President, Chairman, Dr. Share-Jones, and the Secretary.

Meeting of 1st October, 1925.

I. *Chairman.*—It was resolved that Mr. A. Gofton be appointed Chairman of this Committee for the ensuing year.

II. *Minutes.*—The minutes of the previous meeting, having being printed and circulated, were taken and signed as correct.

III. *Irish Free State and Veterinary Surgeons Acts.*—The Secretary reported the result of an interview he had had at the Dominions Office on August 21st, and submitted a letter he had addressed to the Under Secretary of State with regard to the relation of the Royal College of Veterinary Surgeons to the Royal Veterinary College of Ireland. It was resolved that the action of the Secretary be approved.

IV. *Ministry of Health. Meat Inspection.*—A copy of a letter addressed to the Ministry of Health on the 25th July and the reply of the Minister of August the 7th were submitted.

A letter dayed August 2nd was also submitted from Mr. Thomas Parker, F.R.C.V.S., dealing with the question of the rôle of the veterinary surgeon with regard to the inspection of meat.

It was resolved—

(*a*) That a Special Committee be appointed to take such steps as may be necessary to secure support from such organisations as it may be deemed advisable to consult towards the carrying into execution of the recommendations of the Departmental Committee on Meat Inspection with regard to the services of veterinary surgeons.

(*b*) That the Committee consist of the following members:—The President, the Chairman, Lt-Col. J. W. Brittlebank, Professor J. B. Buxton, Mr. J. C. Coleman, Mr. J. F. Craig, Mr. J. W. McIntosh, Professor J. Share-Jones and Lieut.-Col. T. Dunlop Young.

(*c*) That a letter be addressed to the Ministry of Health calling attention to the need for the insertion in any draft Public Health Act (Amendment) Bill, which may be introduced into Parliament in the near future of a Clause giving to Registered Veterinary Surgeons the powers of the Medical Officer of Health under Clause 116 of the Public Health Act, 1875.

V. *Tuberculosis Order.*—The Secretary submitted a copy of the Tuberculosis Order, 1925, the Tuberculosis Order, 1925, No. 2 and the relative memoranda from the Ministry of Agriculture and the Ministry of Health.

Mr. SPENCER: There is one matter in connection with this Report which I should like to raise. It is one which I hope, Sir, you may accept as coming within the purview of this Report inasmuch as it was on the Agenda of the Parliamentary Committee meeting yesterday. The question is one with regard to the Tuberculosis Order of 1925, or that part of the Order which is especially concerned with the diagnosis of the disease. I raise the question here because I am convinced that the profession is in need of guidance with regard to its duties in the carrying out of this Order; and in my opinion this is the proper body from which such guidance should come.

Most of you may know that at or about the time when the Tuberculosis Order was circulated it was accompanied by a covering letter from the Ministry, Circular Letter 13, of July 25th, 1925, in which Suggestions and Rules were laid down as to the procedure of veterinary surgeons in dealing with this disease. In that circular letter it is set out by the Ministry that, as local authorities are to be called upon to pay compensation for the animals slaughtered under the Order, special care must be taken by those local authorities that their inspectors make use of every available test before any decision is come to with regard to a particular animal. The letter goes on to say that, therefore, in those cases in which an animal is suspected of being infected with tubercular emaciation, the use of the tuberculin test must be made use of in those cases in which a diagnosis cannot otherwise be satisfactorily arrived at; but no mention is made in the letter of the use of the test in any other phase of the disease which is scheduled under this Order. No mention is made of the use of the test in those cases in which the animal is suspected of coming within the Order owing to the existence of a chronic cough, or what is described in the Order as "other definite clinical evidence of tuberculosis." Not only so, but before the test can be applied, it is necessary to obtain the owner's consent. No mention is made of the consent of the owner being given to a

test applied for the purpose of diagnosing this phase of the disease.

Thinking this omission might be accidental, I sought the ruling of the Ministry with regard to it. I wrote a letter in which I asked whether it was the wish of the Ministry that in all cases the veterinary inspector was to be expected to diagnose this disease without the use of the test. I received a letter in acknowledgment in which it was stated definitely that in none of these cases was the test ever necessary. Special stress was laid on the necessity for there being, besides the chronic cough, a definite clinical evidence of tuberculosis. I am bound to say, that after forty years' experience in the field, I find myself unable to admit that there ever is any definite evidence of the existence of tuberculosis, given an animal which has a chronic cough and which is not emaciated. There may be definite evidence of chronic disease, but that disease may or may not be due to tuberculosis. In a proportion of cases coming under this phase, if a veterinary inspector is never to be allowed to use the tuberculin test, it will be found that a proportion of cases of diagnosis of tuberculosis within the meaning of the Order made during life will be found to be not proven after death.

I can quite conceive there may be a difference of opinion about it, but my own opinion is that in any of the cases mentioned under the Order the Tuberculin Test is of the least use in the one for which special permission is given for its use, namely, the case of the emaciated animal, for two reasons: first because an animal which is so badly tubercular as to be emaciated ought in the majority of cases to be diagnosible, and secondly, because in any event you are dealing with a very low-priced animal, and if a mistaken diagnosis should be made not very much harm is done in the way of wasting public money or paying compensation unnecessarily. But it is a different matter with regard to the other animal which is affected with chronic cough, because in that case—

Professor GOFTON: I am sorry to interrupt Mr. Spencer, and I do not want to restrict the discussion on this matter, but it does not seem to me that the lines of Mr. Spencer's argument have very much bearing on the Report of the Parliamentary Committee. Of course I submit to your ruling, Sir.

The PRESIDENT: I thought it came under item No. 5, "Tuberculosis Order."

Professor GOFTON: If you rule it is in order, Sir, I have nothing more to say, but I think Mr. Spencer's remarks are rather wide of the Report of the Parliamentary Committee.

Mr. SPENCER: I said that my only object in raising the matter was in order that guidance might be given by this body to the profession outside. I am confident that those outside this body are very badly in need of that advice. If it is the decision of the Ministry to prohibit, or at any rate to refuse to sanction the use of the test in this case, one of two things must happen. Either many inspectors will refuse to accept a large proportion of these dangerous animals as coming within the purview of the Order, or, failing that, if they are taken, the local authorities must be warned that in a certain number of cases they may be presented with a bill to pay for super-compensation. I am no advocate for the wholesale or indiscriminate use of tuberculin. On the only occasion on which I have had an opportunity of expressing an opinion on the point, I have said emphatically that the Tuberculin Test should be used very sparingly. I am not even advocating the use of tuberculin in this case, but what I am asking is that the profession shall be exonerated from blame if a certain proportion of cases necessitate the presentation of a bill for super-compensation due to errors of diagnosis, it having been prevented from using the only means, or the safest means, at its disposal for preventing such errors of diagnosis.

Sir STEWART STOCKMAN: May I make a remark which might clear up the situation. If you read No. 4 of the Tuberculosis Order you will see it definitely states: "The Inspector may, with the previous consent in writing of the owner of the animal or of his agent, but not otherwise, apply the tuberculin test to any cow which the Inspector suspects of suffering from tuberculosis of the udder, or of giving tuberculous milk, or to any bovine animal which the Inspector suspects of suffering from tuberculous emaciation."

That practically gives authority for a free hand in the application of the test in all cases in which it is necessary, provided they come within the scope of the Order. Mr. Spencer is quoting from a circular letter. The Ministry has to give some indication to local authorities about such a procedure as the use of the Tuberculin Test. As Mr. Spencer has pointed out, the number of Tuberculin Tests which have been applied to tuberculous animals, which really could have been diagnosed without such test, has already meant an enormous expense. The Ministry in the circular letter practically says to local authorities: "You shall not use the Tuberculin Test unless the inspector says he cannot diagnose the disease otherwise." I think if we started discussing the conditions under which the Tuberculin Test should or should not be used, we should be going far beyond the authority and the wishes of this Council. I think you may take it, however, that the proper reading of this is that it is simply a direction to local authorities not to allow the unrestricted use of the Tuberculin Test. If an inspector says: "I cannot diagnose without the Tuberculin Test" he is quite entitled to use it.

One thing which one has to protect oneself against is this. The farmers are very nervous about what they call the thin edge of the wedge. They are afraid that this Order might be pushed by some local authorities into applying the Tuberculin Test to practically every animal in the byre which was in the least under suspicion, with consequences which everybody here will recognise. I do not think anyone need worry about the point which Mr. Spencer has raised. It may be quite correct that there are doubts

about the matter in the minds of some veterinary surgeons, but the fact remains from the circular and the Order that if an inspector says definitely that he cannot diagnose this disease without the Tuberculin Test in this or that case, and still thinks it may be tuberculosis, then he is entitled to use the Tuberculin Test.

Mr. SPENCER: I am very much obliged to Sir Stewart Stockman for his guidance. If " the consent of the owner " can be so altered that his consent can be given to the test all will be well. At the present moment the Order does not permit him giving consent. You simply ask his consent to apply the test to an emaciated animal. It does not apply when the animal is not emaciated. If " the owner's consent " were altered to that extent I think we should be quite all right.

Dr. BRADLEY: In listening to the reading of the Parliamentary Committee's Report it occurred to me that the number of members of the Special Committee therein mentioned is rather high; I think I counted nine names. I believe the number of the whole Parliamentary Committee only amounts to fifteen, and it seems to me that a fewer number of members might constitute this Special Committee without any loss of efficiency, and I think possibly even with gain.

The PRESIDENT: It was first suggested that the Special Committee should be composed of the whole Committee, but afterwards it was decided to constitute a smaller Committee.

Dr. BRADLEY: Then I propose that the whole Committee be the Special Committee. If nine why not fifteen?

Sir JOHN M'FADYEAN: .I beg to second that.

Mr. MCINTOSH: I should like to propose that the Special Committee be composed of five members. I think the work would be much more expeditiously carried on by a small Committee.

Mr. WILLETT: I second that.

The PRESIDENT: I ought to point out that on this Special Committee there are members other than members of the Parliamentary Committee.

Dr. BRADLEY: That being the case, with Sir John's permission I will withdraw my motion.

Sir JOHN M'FADYEAN: I am told that only one member is not a member of the Parliamentary Committee.

The SECRETARY: There are two: Prof. Craig and Mr. McIntosh.

Sir JOHN M'FADYEAN: May we have read to us again the exact nature of the duties of this Committee?

The Secretary read paragraph (iv.) above.

Sir JOHN M'FADYEAN: I should like to ask whether it is not advisable that, before this Special Committee takes any action, what it proposes to do should be submitted to the Parliamentary Committee. I should have thought that would follow as a matter of course.

The PRESIDENT: It was suggested that it should report before action. I have an amendment before me that the Special Committee should consist of five members.

Dr. SHARE-JONES: I should like to support the original motion. A tremendous amount of time was given to the discussion of this question yesterday. The question of a small Special Committee was considered from every angle, and it was eventually decided that it was in the interests of the general problem to ask certain gentlemen to accept membership of the Special Committee. This proposition comes forward to the Council as the unanimous recommendation of the Committee, namely, that this Special Committee be constituted as recommended here. I support the action of the Committee in that respect, and I hope the Chairman of the Committee will do the same.

The PRESIDENT: I will put the proposition that the Special Committee should consist of five members.

The proposition was then put and carried, fifteen voting for and six against.

Colonel DUNLOP YOUNG: For the benefit of those who were not at the meeting, will you kindly state, Sir, for what this Special Committee is appointed.

The PRESIDENT: Would it be wise to go into Committee first?

Colonel BRITTLEBANK: I do not think there is any necessity for that.

Mr. GOFTON: In reply to Colonel Dunlop Young's question, the suggestion which was submitted to the Committee was that various organisations such as the Master Butchers' Federation, the Meat Traders' Federation, the Farmers' Union, various political bodies and particularly individual Members of Parliament should be approached and should be urged to bring pressure to bear upon the central authorities with the object of accomplishing such a change in the law as would ensure for veterinary surgeons an equal right with the Medical Officer of Health in the inspection of meat, similar to that which at the present time pertains in the Public Health Scotland Act and in the Public Health Act of England in Section 116. At the present time the veterinary inspector has no standing, and the whole power of meat inspection is vested, as the English law stands at present, in the Medical Officer of Health and in the Sanitary Inspector.

The PRESIDENT: We will now proceed to the election of the Committee of five.

Professor BUXTON was understood to say that in view of the decision to restrict the number of the members of the Special Committee to five he would withdraw his name.

Dr. SHARE-JONES: I do the same, Sir. I am simply dumbfounded that members of the Committee who voted for this yesterday, and who gave so much time to it, should now simply turn right round on their action of yesterday. Even the Chairman has not a word to say in defence of his own Committee.

Mr. GOFTON: The Chairman pointed out that it should be the whole Committee or a small Committee, and he also pointed out that in appointing nine members we were appointing over 50 per cent. of the Committee.

Dr. SHARE-JONES: Unless I misunderstand the position, a Chairman, in presenting the report of his Committee to the Council, has to represent the views of his Committee, and not the views which he himself holds; and it is his duty to back up his Committee's report. It is not a question of whether he agrees with it or not.

Sir STEWART STOCKMAN: I dissent entirely from that. If one is out-voted in Committee, and if one still feels that his view is the right one, I think one has a perfect right to bring it up before the Council. I do not think stones should be thrown at anybody for doing that.

Sir JOHN M'FADYEAN: I am sure that every member here present is in full sympathy with the object of this proposal, but I do think it is quite possible that this Special Committee, with the best intentions in the world, might take action or express opinions which would not be ratified by the Parliamentary Committee or by the Council as a whole. I think no one will deny that it would be difficult to find a precedent for the appointment of a Special Committee with such powers as those.

(To be continued).

OBITUARY.

BREVET LIEUT.-COLONEL KENNETH MCLAREN MCKENZIE, D.S.O., ROYAL ARMY VETERINARY CORPS.

By the sudden death of Bt. Lieut.-Colonel Kenneth McKenzie, which took place at Kohat, India, on October 6th, 1925, the R. A. V. Corps has lost one of its most promising and popular younger officers. Born on the 25th March, 1881, he graduated from Glasgow on the 21st December, 1903, and was gazetted to the R. A. V. C. on the 4th February, 1905. In September, 1906, he proceeded to South Africa where he held many appointments, and at the time of his return to England, in December, 1911, he was commanding the large remount depôt at Mooi River, a very exceptional position for so junior an officer.

In July, 1914, he became Instructor at the Army Veterinary School, Aldershot, from whence he proceeded to France on the 14th August, 1914, in veterinary charge of the H. Q. 1st Army. In December of the same year he was given command of the Base Veterinary Hospital at Havre, which command he held until the 8th April, 1919. Here he came into contact with large numbers of officers, N.C.O.'s and men, and will be remembered by all for the happy, cheery and helpful manner in which he assisted them on landing and embarking at that port.

He was twice mentioned in dispatches and awarded the D.S.O. for his excellent work during the Great War.

From the 1st April, 1920, to the 31st March, 1924, he served in the Veterinary Directorate at the War Office, and endeared himself to all with whom he came into contact.

In September, 1924, he proceeded to India and was posted to Kohat.

Kenneth McKenzie had many friends. Wherever he went he was greeted as a real comrade by all ranks and universally welcomed, but with all his popularity, he always remembered those less fortunately constituted, and was never happier than when he was quietly working for those in trouble. A loyal supporter of his corps, a true comrade and a thorough man of the world, the R. A. V. C. has lost by his death one who did much to advance its prestige and with it that of the whole Veterinary Profession, in the opinion of the public.

He leaves a widow and one son to whom we extend our sincerest sympathy.

DIVISIONAL REPORTS.

Lancashire Division.*

MEETING AT MANCHESTER.

A General Meeting of the Lancashire Division was held at the Grand Hotel, Aytoun Street, Manchester, on September 10th, 1925, at 3-30 p.m. The chair was taken by the President (Mr. J. T. Allen), and other members present were Messrs. W. Walker, T. G. Millington, E. J. Burndred, J. Spruell, J. K. Bateman, J. Hall, R. S. Howe, P. J. Lindsay, E. H. Curbishley, J. Holroyd, C. T. Trevers, A. W. Noel Pillers, W. Woods, R. C. Locke, W. Noar, and J. F. Dixon. *Visitors*: G. Lloyd and A. Cruikshank.

Apologies for unavoidable absence were received from Messrs. J. Abson, R. Hughes, G. H. Locke, J. W. Brittlebank and J. H. Carter.

The Minutes of the last meeting were read.

It was agreed that a copy of the subscriptions to the "Taylor" Fund be published in the Minutes.

LANCASHIRE DIVISION.

THE W. A. TAYLOR PRESENTATION FUND.
(Limited to 10s. per member).

	£	s.	d.		£	s.	d.
				Forward ...	12	11	6
Abson, J. ...	0	10	0	Jackson, S. ...	0	10	0
Ackroyd, W. ...	0	10	0	Johnstone, W. K.	0	10	0
Adamson, J. ...	0	10	0	Jones, J. T. S....	0	10	0
Allen, J. T. ...	0	10	0	Jones, T. Eaton...	0	10	0
Ball, F.	0	10	0	Locke, G. H. ...	0	10	0
Blackhurst, C. ...	0	10	6	Locke, R. C. ...	0	5	0
Brittlebank, J. W.	0	10	0	Lord, H. H. ...	0	10	0
Brooksbanks, A. S.	0	10	0	McKinna, J. ...	0	10	0
Burndred, E. J. ...	0	10	0	Mayall, G. ...	0	5	0
Butters, E. L. ...	0	10	0	Michaelis, A. M....	0	10	0
Carter, J. H. ...	0	10	0	Oddy, R. H. ...	0	10	0
Chadwick, J. B. ...	0	10	0	Packman, W. ...	0	10	0
Curbishley, E. H....	0	10	0	Pillers, A. W. Noel	0	10	0
Dixon, J. F. ...	0	10	0	Shawcross, C. F.	0	10	0
Dobie, T.	0	10	0	Spruell, J. ...	0	10	0
Ducksbury, C. A....	0	10	0	Sumner, H. ...	0	10	0
Edwards, F. G. ...	0	10	0	Torrance, R. L.	0	5	0
Ferguson, H. H. ...	0	10	0	Urmson, J. ...	0	10	0
Herbert, R. ...	0	10	0	Warburton, F. ...	0	5	0
Holroyd, J. ...	0	10	0	Watson, L. A. ...	0	10	0
Holroyd, J. E. ...	0	10	0	Whitehead, J. D.	0	10	0
Hopkin, F. ...	0	10	6	Wilson, T. ...	0	10	0
Howe, J.	0	10	0	Woods, W. ...	0	10	0
Hughes, R. ...	0	10	6	Wooley, N. ...	0	5	0
Ingram, J. W. ...	0	10	0	Wright, J. H. ...	0	10	0
Carried forward	£12	11	6	Total	£23	16	6

BALANCE SHEET.

	£	s.	d.		£	s.	d.
Subscriptions	23	16	6	Messrs. Kent & Sons...	22	2	0
				Postage, Printing, Stationery, etc.	1	14	6
Total	23	16	6	Total	23	16	6

Audited and found correct.
E. J. BURNDRED } *Auditors.*
J. H. WRIGHT }
A. W. NOEL PILLERS,
Hon. Treasurer.

* Received on October 12th.

Nomination.—Mr. G. Ellis, of Glossop, was nominated for membership.

Elections.—Mr. Cantrell Tracy, Preston; Mr. R. S. Howe, Buxton; and Mr. J. N. J. Hagan, Kirkham; were elected members of the Division.

After a short discussion, it was proposed by Mr. HOLROYD and seconded by Mr. NOEL-PILLERS that Rule VI. be amended by substituting the words "Division of the National Veterinary Medical Association" for "Recognised Veterinary Medical Association or Society" in first and second lines of Rule VI.

Mr. NOEL-PILLERS, the Hon. Treasurer, announced he would be pleased to receive subscriptions to the Garnett Memorial Fund.

The President then called on Dr. Tom Hare, M.B., Ch.B., B.V.Sc., for his paper on "Staphylococcal and Streptococcal Dermatitis of the Udder in Dairy Cows."

(Dr. Hare's paper is published with a report of the ensuing discussion, at the commencement of this issue.—Ed.).

Mr. NOEL PILLERS proposed a vote of thanks. He said that when he asked Dr. Hare if he would give a paper he readily assented and gave Mr. Pillers a number of subjects from which to choose. Mr. Pillers said he was sure the subject chosen was a most interesting one. The importance of a correct diagnosis was now beginning to dawn on the Veterinary Surgeon and the paper illustrated the good results that could be obtained from team work. He knew Dr. Hare was willing to help any clinician who needed his assistance. He also knew Dr. McKenna of Liverpool, and the way in which that gentleman dealt with skin diseases was most interesting. He was sure the paper had been enjoyed by everyone present, and he hoped Dr. Hare would oblige the Division again with another paper.

Mr. J. SPRUELL, in seconding, said he had, unfortunately, not been able to come early but would have great pleasure in reading the paper when published.

The vote was carrried with acclamation.

It was decided that the next meeting be held at Liverpool on October 20th, that Mr. Noel Pillers make the necessary arrangements for a meeting room, and that there be a discussion on the Tuberculosis Order of 1925.

JOHN SPRUELL,
Hon. Secretary.

North of Ireland Division.

The July meeting of the above Division was held at the Imperial Hotel, Portadown, on Saturday, July 25th, 1925, at 4-30 p.m.

Mr. WM. S. LAMONT occupied the Chair, and the following members were present:—

Messrs. McAleer, Cassells, Kelly, Lamont, Williamson, McLean, Finch, Longhorn, Captain Rice and the Hon. Secretary.

Apologies for non-attendance were received from:—Messrs. Emery, Johnston, Jewell, Humber, S. R. Thompson, Captain Monro, and J. McLean.

The minutes of the previous meeting having been read and approved of by the meeting, were signed by the Chairman.

Correspondence having been dealt with, the Chairman introduced the subject of the "Frank Garnett" Memorial. It was unanimously decided to donate £5 5s. to the fund.

The Chairman then called on Captain Rice to read a paper entitled, "Poultry Diseases and the Veterinarian." An interesting paper having been heard, the Chairman called on Major WILLIAMSON to open the discussion, which proved to be very animated, the following members taking part:—Messrs. H. Lamont, Kelly, McLean, McAleer, and the Chairman.

The meeting concluded with the passing of votes of thanks to Captain Rice and the Chairman.

H. G. LAMONT,
Hon. Secretary.

Suppression of Tuberculosis.

WHAT THE GOVERNMENT SHOULD DO.

Under the above headings, the following letter from the pen of Mr. Henry Gray, M.R.C.V.S., appeared in *The Morning Post*, of 20th October:—

TO THE EDITOR OF 'THE MORNING POST.'

"Sir,—In September last the Tuberculosis Order, 1925, was introduced with the object of suppressing or destroying palpably tuberculous dairy cattle or those passing tubercle in their milk; that is, when their owners report such or they are discovered by the officials appointed for the purpose. By the time these diseased animals attract attention or are detected, they will no doubt have done all the mischief they can to public health.

"Many livestock owners have been endeavouring to free their herds of this scourge. Some of the more public-spirited among them have no doubt killed off those cattle that have responded to the tuberculin test or fattened them after isolation and killed them for human food. But how many of the others are there who have not sold their reactors privately or in the open market to spread the disease right and left to hitherto clean herds?

"Not a few who have cleansed their herd of this pest fear its reintroduction by the purchase of fresh stock that have apparently resisted the test. Experience has shown some of them, unless they observe great vigilance, how easy it is to reintroduce the disease by such means.

"This is not to be wondered at, since the majority of cattle are not tested, and there seems no law to prevent an owner selling tuberculous cattle or reactors privately or in the open market unless they show unmistakable signs of the disease.

"By the sale of such animals, which appear to the uninitiated to be in good health, the disease will always exist and be constantly spread right and left to undo the good work of those who are doing their best to maintain their stock in health.

"Judging by the reports of discussions at meetings on this subject, it seems that those in an official capacity are only concerning themselves with the prevention of the spread of gross infection through meat and milk to the community, and are ignoring the spread of the disease from cattle to cattle. At a recent conference of the National Federation of the Meat Traders' Association at Birmingham, a resolution was passed to bring all possible

pressure to bear on the Government to ensure that all rejected tuberculous cattle should not be offered for sale, but slaughtered under Government supervision.

"From an economic point of view the Government should adopt drastic measures to eradicate the disease from our cattle. By so doing the danger from tuberculous meat and milk would fall to the ground and much suffering or ill-health among human beings would cease to exist. Further, large sums of money in the form of salaries of officials, the expense of the upkeep of sanatoria, etc., would be saved annually. Furthermore, the livestock industry would become more profitable. Finally, the food supply of the community would increase and therefore become cheapened.—Yours, etc., HENRY GRAY.

1 Redfield Lane, S.W. 5.
October 17th."

TOWN'S TRIBUTE TO PRACTITIONER.

FORTY YEARS' WORK IN THE WEST COUNTRY.

"After nearly 40 years' residence in Wiveliscombe," says the *Somerset County Gazette*, of October 10th, "Mr. William Brown, J.P., M.R.C.V.S., left the town this week to join his son at Welwyn Garden City, London.

"Mr. Brown has been a familiar figure throughout the neighbourhood by reason of his professional duties as a veterinary surgeon. In addition, he has been closely identified with religious, social, and political activities. In a quiet, unobtrusive way, Mr. Brown has done many acts of kindness among poorer people in Wiveliscombe, and his departure leaves a vacancy in the town that cannot easily be filled.

"Mr. Brown has served in numerous public offices, and a few years ago was made a Justice of the Peace for the county, sitting on the local Bench. He was a member of the local school managers' committee, and was an energetic member of the Urban District Council. A Bible class he conducted on Sundays for many years was a great success, Mr. Brown's inspiring talks proving very popular. Of a literary turn of mind, he has more than once devoted his energies to book-writing, his published works including the delightful "Our Lesser Brethren" touching man's responsibility towards the lower animals.

"When it became known that Mr. Brown was leaving the town that had been his home for so long, it was felt that some token of the respect and affection entertained for him should be made to him as a parting gift. The suggestion was put forward that a testimonial fund should be raised among the townspeople, and a substantial sum of money was raised. The collectors found no difficulty in gaining subscribers; Liberals, Conservatives, and Socialists made their contribution gladly along with Nonconformists and members of the Established Church. The testimonial was both undenominational and non-political in character; in fact, it was a genuine tribute of the feelings of the townspeople generally.

"The farewell presentation was made on Monday evening at the Council Chamber in the presence of a large gathering of the recipient's friends and well-wishers. Mr. Brown had been asked what form he would like the present to take, and he chose an armchair and bookcase. Thanks to the large sum collected, the promoters of the testimonial were able to purchase a very handsome armchair in Utrecht velvet and a commodious mahogany bookcase. Upon the latter was a brass plate, inscribed: 'Presented to William Brown, Esq., J.P., by friends of Wiveliscombe and neighbourhood, October 5th, 1925.'"

The *Gazette* proceeds to give an extended report of the many warm tributes paid to Mr. Brown on the occasion of the presentation.

ARMY VETERINARY SERVICE.

LONDON GAZETTE—WAR OFFICE—TERRITORIAL ARMY.
October 20th—Captain R. C. G. Hancock, to be Major (Prov.), October 9th.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest in these columns.

Diary of Events.

Nov. 3rd.—Annual Meeting of the Dumfries and Galloway Division at Carlisle.
" 5th.—Annual Dinner of the Central Division.
" 30th.—Notification of changes of address to Registrar, R.C.V.S.
Dec. 1st.—R.C.V.S., Examination Fees (December Exams.) payable.
" 8th.—R.C.V.S., Written Examination.
" 10th.—R.C.V.S., Oral Examinations commence.

FOOT-AND-MOUTH DISEASE.

"Further outbreaks of foot-and-mouth disease have," says *The Times*, of October 27th, "occurred during the week-end, and two new centres, in Warwickshire and Northamptonshire, have been affected. Two outbreaks have been confirmed in Warwickshire, both at Exhall, near Coventry, where the disease appears to have been in existence for a few days before it was discovered. In Northamptonshire the position is not quite so serious. Only three cattle out of a total of 105 cattle and 159 sheep have been infected on a farm at Great Oxendon, near the Leicestershire border. This, the authorities believe, indicates that in this instance the disease has been discovered in time, and may well be localised. The usual restrictions have been put into force and all the animals affected have been slaughtered.

"Since Saturday morning in the areas already infected 19 fresh outbreaks have been confirmed—one in East Sussex, five in Wiltshire (near Calne and Devizes), one in the West Riding of Yorkshire, and twelve in Lancashire. The animals slaughtered in connection with these outbreaks number 496 cattle, 134 sheep, 93 pigs, and two goats.

"The total number of outbreaks confirmed since the present series began on September 25 with a case at High Wycombe, in Buckinghamshire, is 48. The total number of animals slaughtered is 1,086 cattle, 293 sheep, 590 pigs, and seven goats, the estimated gross compensation payable amounting to £36,700.

"Although no attempt was made at the Ministry of Agriculture to minimise the seriousness of the position, it was regarded as a hopeful sign yesterday that only four outstanding cases remained to be investigated. It was stated that in the High Wycombe area no further case had occurred since September 25, and that district had therefore been declared to be free of the disease, and restrictions had been removed. In the area round Weymouth, the radius within which movements of cattle were prohibited except under licence, had been reduced from fifteen miles to five miles and, if no further outbreak occurred, it was probable that restrictions there would be removed altogether in a few days.

"The present outbreak is, as yet, in no way comparable with that which occurred about two years ago, and which was at its worst from August, 1923, to April, 1924. The 'peak' period was reached in December, 1923. In the week ended December, 1923, there were no fewer than 302 cases of the disease in Great Britain. In the following week the figure had fallen to 289, but in the week ended

December 29, it had risen to 319. It was then no uncommon occurrence for 60 or 70 cases to be confirmed daily.

"While it is difficult to discover the exact origin of the present outbreaks, farmers can greatly assist the Ministry, and render the further spread of the disease less likely, by prompt notification of all suspicious cases."

* * * * *

The Times of October 28th reported the confirmation of ten more outbreaks—nine in areas already infected, and one in a new centre, Rutland.

Mr. WOOD, the Minister of Agriculture, addressing the Council of Agriculture for England on the 27th inst., stated that he was glad to say that the organisation of the Ministry of Agriculture was in a very much stronger position for dealing with this matter than it was two years ago. It had been overhauled, and they had tried to take whatever steps were possible, largely on the recommendations of Captain Pretyman's Committee, to put them in a position to stamp out the disease as quickly as possible. While he did not think, as far as his advice went, that the situation was one in regard to which they were called upon to be alarmists, it was undoubtedly grave, and he wished to use the gravity of it to emphasise the imperative necessity on the part of farmers of quick reporting.

He asked for the co-operation of the council in pressing on the public the urgency of reporting suspicious cases. The real danger in the matter was in markets.

INSPECTION OF MARKETS.

On July 1st the Ministry called the attention of local authorities to the importance of arranging for veterinary inspection of live stock markets, with a view to detecting symptoms of foot-and-mouth disease at the earliest possible moment, and thus preventing the possible wide distribution of infected animals. In view of the present emergency he proposed to repeat the appeal to all local authorities, asking them to make special arrangements for such inspection, at any rate until the end of the present serious situation. The Ministry was making every effort to stamp out the outbreaks of the disease, and he appealed to local authorities to co-operate and do their part in a common campaign.

PROPOSED GENERAL DOUBLE DIPPING ORDER.

At a recent meeting of the directors of the Scottish Chamber of Agriculture, Mr. C. J. Grieve, Branxholme Park, Hawick, presiding, initiated a discussion on the proposed Sheep (General Double Dipping) Order, 1925.

The Chamber had, said the Chairman, taken an active part in that movement for many years. They had had various meetings and deputations, and that Order was the outcome. The result of the Order would be almost what they wanted in the first place, although they were going to reach it in a very roundabout way. According to the Order, they must dip sheep twice between 15th July and 31st August. If the order was carried out, it would mean that there would be no restrictions placed on the movement of sheep from the clean areas, comprising the greater part of Scotland. That would be an enormous advantage.

Mr. W. L. Johnston, Oxnam Neuk, moved that the Chamber approve generally of the Order, with the following provisions:—(1) That, in determining an infected area, it should not be necessary to adhere to county or parish boundaries, but that the same procedure be followed as recently adopted in the case of foot-and-mouth disease; (2) that exemption be granted to counties in which an isolated outbreak has occurred which originated from outside sources.

Mr. John Henderson, Tayport, said many of them thought that to have two dippings coming on in that particular period was cruel to the sheep owing to the fact that they had been just recently clipped. He moved that they disapprove of the Order as indicated, but suggest that it should be on the same lines as the foot-and-mouth disease procedure—namely, a five miles' radius—and that there should be one dipping in August and one in November.

Mr. J. L. Anderson, Cupar, said he did not think the Order could be practically carried into effect.

Another member remarked that the Ministry would have adopted a bolder and better policy if they had marked out the points where the sheep scab existed—the danger points—and left the others alone. From that point of view he felt very much disappointed with the Order and its probable results.

The motion of Mr. Johnston was carried with only one dissentient.

* * * * *

The Oswestry Farmers' Union recently received a report from the Ministry of Agriculture on the question of losses of sheep through dipping.

The Ministry reported that each of four cases investigated the dipping was done privately and with poisonous dips. They had warned farmers against poisonous dips.

Major Maclean asked why farmers used poisonous dips when the Ministry were satisfied with non-poisonous dips.

Mr. Bebb: Non-poisonous dips are more expensive and less effective.

It was decided to remind the Ministry that no report had been received on the complaint of the Denbighshire farmers respecting losses of sheep at the Berwyn Mountain dippings supervised by the Ministry's inspectors.

* * * * *

The Minister of Agriculture informed the Council of Agriculture for England at a meeting on Tuesday that they were proposing more energetic methods to endeavour to eradicate sheep scab. There seemed to be a concensus of opinion that the present procedure was too slow. It had been responsible for only about 27 per cent. decline in four years. He was advised that experience in other countries showed that sheep scab could be cleared out. Therefore they proposed a policy to deal with the matter, the main features of which were (1) a general restriction of movement and compulsory double dipping in a short period each year—that suggested was July 15 to August 31; (2) that the rest of the year should be entirely free from restriction or dipping on movement; (3) that the counties free from scab for the last two years should be exempt; (4) that the powers of local authorities to make regulations should be withdrawn; (5) that the existing special rules as to infected places and areas should remain. He was advised that if that policy was efficiently carried out it should be possible to eradicate scab within three or four years. Some farmers thought that was an unduly optimistic view, but he believed that in New Zealand and Australia they had succeeded in freeing flocks from it. Leading agricultural organisations had been asked to state their views on the proposed regulations by November 1.

THE COPENHAGEN VETERINARY SCHOOL.

"With a staff of 45 professors and instructors, the Royal Veterinary and Agricultural College, Copenhagen, bears a strong resemblance to the Dublin College of

Science, the Munster Agricultural Institute, the Departments' Forestry School, and the Royal Veterinary College of Ireland—all brought together in one place. In this respect," says *The Irish Times* of October 13th, "a lesson of compactness is conveyed which might be taken to heart by the educational section of the Free State Ministry of Agriculture.

"The Veterinary Department of the Danish College was founded in 1775, and in 1858 was extended into the Royal Veterinary and Agricultural College, now including the following departments—veterinary science, agriculture, forestry, surveying, horticulture and dairying.

"Admission is open to all having a certain practical training in agriculture, horticulture and dairying, or, in the other departments, having passed certain examinations. Forestry includes two years of practical forest service; surveying one year of practical forest service outside the College. The fee is from 40 to 50 kroner per term, the duration of the courses being from 2½ to 5½ years.

"The various laboratories are very completely equipped, besides being well lighted and furnished. Bricks and woodwork enter largely into the construction of the buildings—there is nothing flimsy about them, and the condition in which they are kept is worthy of the highest praise. None of the money devoted to educational purposes is spent on imposing marble pillars or balustrades, handsome though these undoubtedly are, and, as a result, the standard of education throughout Denmark is high.

"In the Agricultural College is a library of 82,000 volumes, which is at the disposal of the public, gratis. This contains scientific works in every language, and last year brought within reach of the farmer 1,500 volumes through the post. There are three reading rooms—one for the public, one for students, and the other for professors. Those who cannot attend the library may obtain books on loan by payment of the postage, and this advantage is being fully utilised.

"Glancing over the bookshelves, the writer noticed quite a number of books by Irish writers, and also the *Journal* of our department of Lands and Agriculture."

Protecting Scottish Wild Cats.

The handbook for this year of the Society for the Promotion of Nature Reserves, now issued, contains the annual reports of the society and of the British Correlating Committee for the Protection of Nature.

In the report of the society further reference is made to the "persecution of the wild cat" in Scotland, and it is stated that owing to the numbers of letters received, in which it was pointed out that the wild cat was being killed in increasing numbers, another letter has been circulated to owners and tenants of deer forests in Scotland asking them to afford such protection as is possible. Several very satisfactory replies have been received. The report adds that much anxiety has been expressed during the year as to the destruction of British wild flora, and the society has decided to appeal to the county councils to pass and enforce by-laws for the protection of species of wild flowers in danger of extermination.

The report of the Correlating Committee states that efforts are being made to establish similar bodies in France, Holland, Switzerland, Spain, Italy, Hungary, Sweden, and South Africa. The Committee noted an advertisement by a Canadian dealer for British butterflies "by the thousand," and a letter was written to him, as the result of which he promised to cease obtaining large quantities of butterflies from Britain. The report adds:—"The Committee has decided to appeal to the principal entomological and natural history societies in Canada in order, if possible, to prevent the wholesale destruction of butterflies for the purposes of decorative work." It is further stated that the question whether it would be possible to reserve certain areas where rare British butterflies are still found is under consideration.—*The Times*.

Frank Garnett Memorial Fund.

Twelfth List of Subscriptions.

	£	s.	d.
Amount brought forward from eleventh list...	382	19	0
Per Lancs. V.M.A.			
F. A. Ball 1 1 0			
E. F. Wood 0 10 6			
1 11 6			
M. Tailby 1 1 0			
2 12 6			
	£385	11	6

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

"The Destruction of Dogs and Cats."

To the Editor of The Veterinary Record.

Sir,—In his article on the "Destruction of Dogs and Cats" in last week's issue, Captain Kirk refers to the slow action of chloroform.

The following is a very effective and rapid method of destroying small animals, and it is especially useful where no assistance is available to restrain the animal:—

First draw some liquid chloroform into an ordinary 5 c.c. hypodermic syringe, and then remove the needle. Holding the dog by the neck with the left hand, and with syringe—minus needle—in the right hand, insert the nozzle of the syringe into the dog's nostril and quickly press the piston, thereby squirting the liquid chloroform into the nostril.

In less than ten seconds the animal will be comatose and, if necessary, one can then inject prussic acid directly into the thorax without fear of any struggling on the dog's part.—Yours faithfully, D. J. Anthony.

Brierley Hill,
Staffs.,
26*th October*, 1925.

Errata.

The note appearing at the bottom of col. 1, page 910, of the issue of October 17th, *re* the Walley Memorial Prize, was taken from a provincial paper and was, we regret to say, inexact and incomplete. The reference should have read:—At a meeting of Council of the Royal College of Veterinary Surgeons, held on October 2nd, the Walley Memorial Prize of £7 11s. 4d. was ordered to be divided equally between Mr. H. Burrow, of the Royal (Dick) Veterinary College, Edinburgh, and Mr. J. C. Taylor, of the Royal Veterinary College of Ireland, who were bracketed equal with the highest number of marks.

* * * * *

Our apologies are due to Professors J. F. Craig and J. Russell Greig for erroneously attributing to the former, who was not present, the remarks made by the latter in the course of the discussion on Dr. Cameron's paper, published in last week's *Record*. The mistake arose through the omission of an emergency reporter to verify the names of the speakers.

National Veterinary Medical Association of Great Britain and Ireland.

EDITORIAL OFFICE: 10 Gray's Inn Square, London W.C.1.

All communications relative to the literary side of the Veterinary Record must be addressed to the Assistant Editor, "Veterinary Record," 10 Gray's Inn Square, W.C.1.